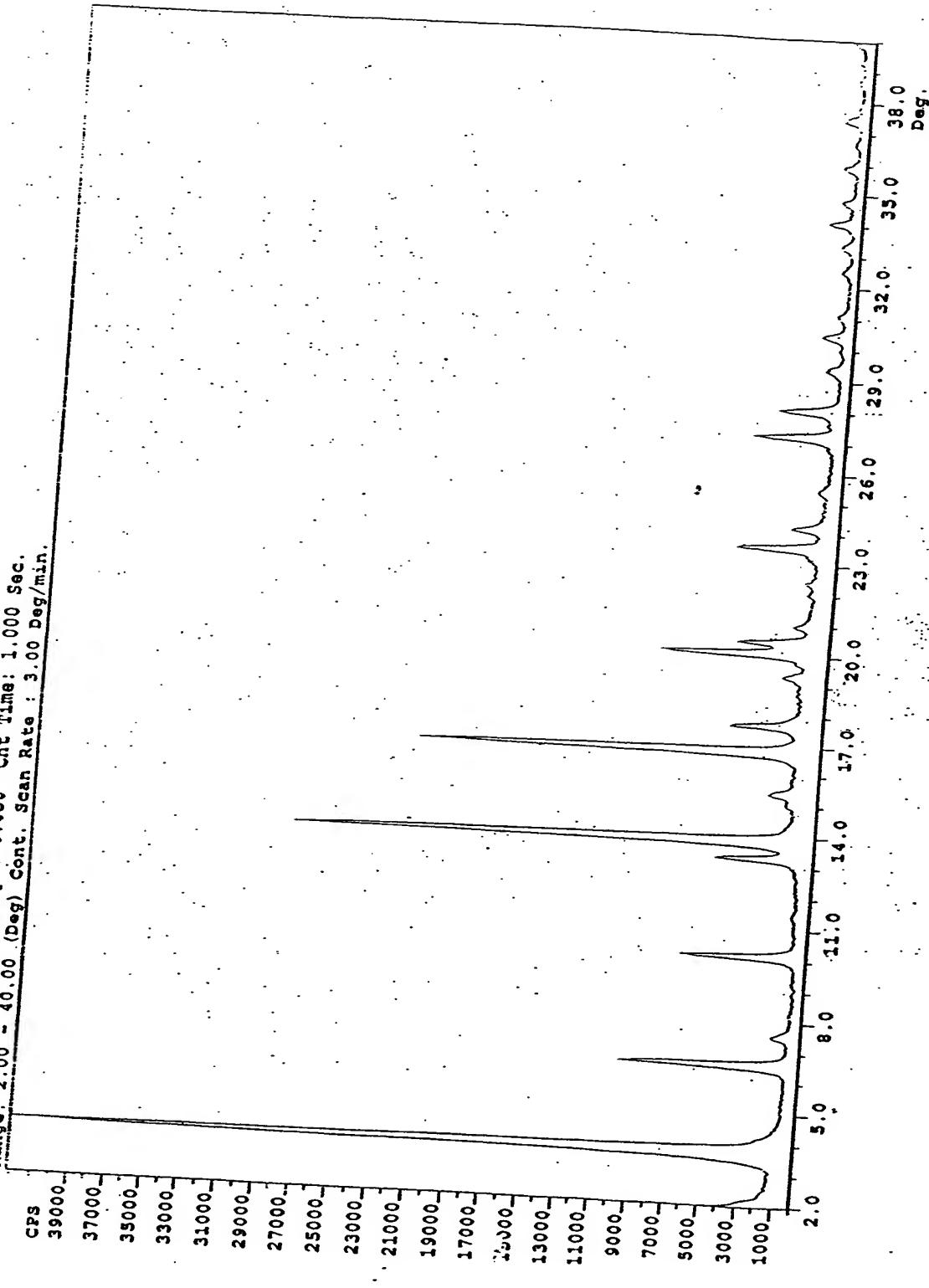


Fig 1

A

Range: 2.00 - 40.00 (Deg) Cnt Time: 1.000 Sec.
Stop : 0.030 (Deg) Cont. Scan Rate : 3.00 Deg/min.



⑧

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Fig. 2 C

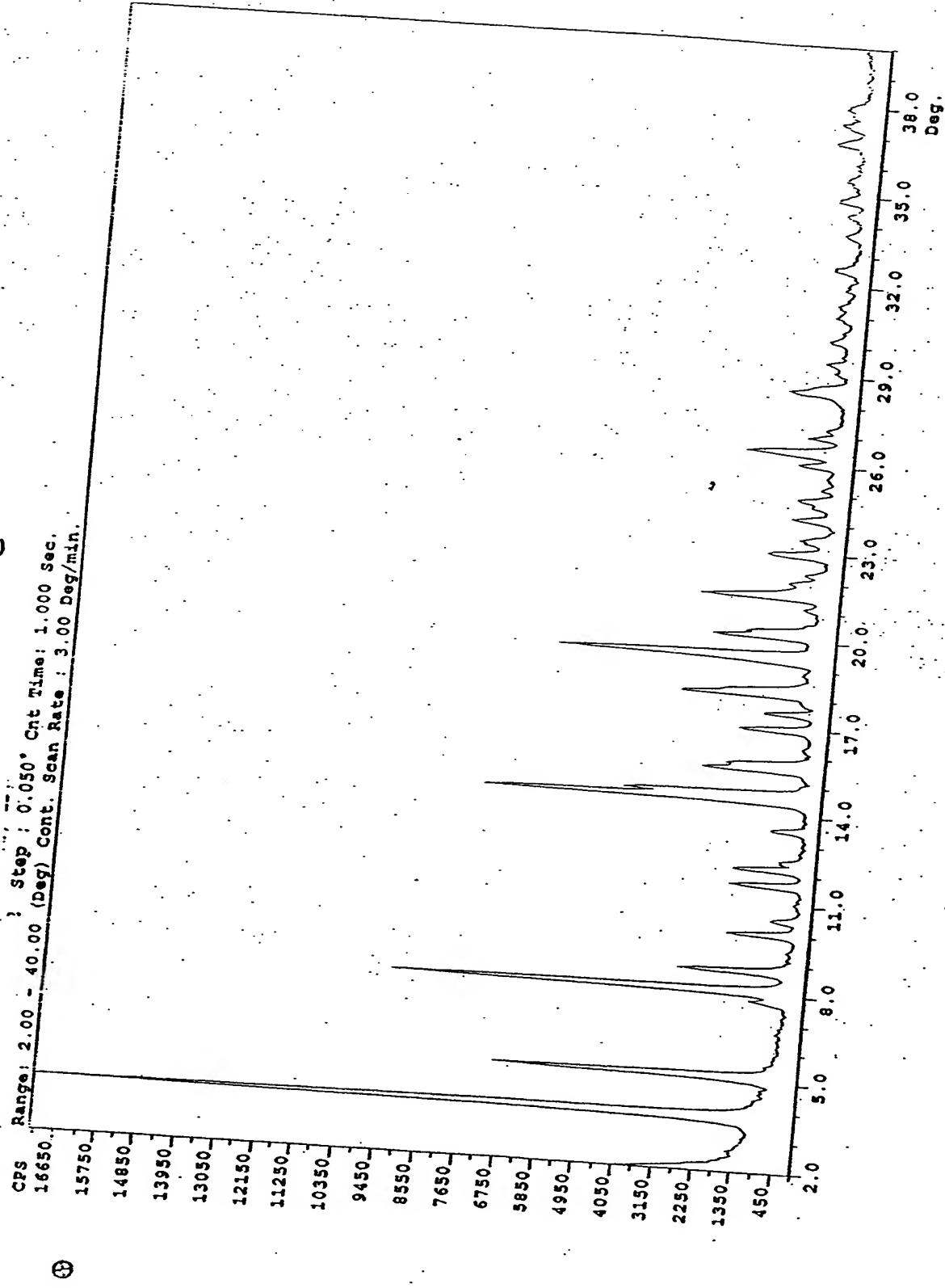


Fig 3 D

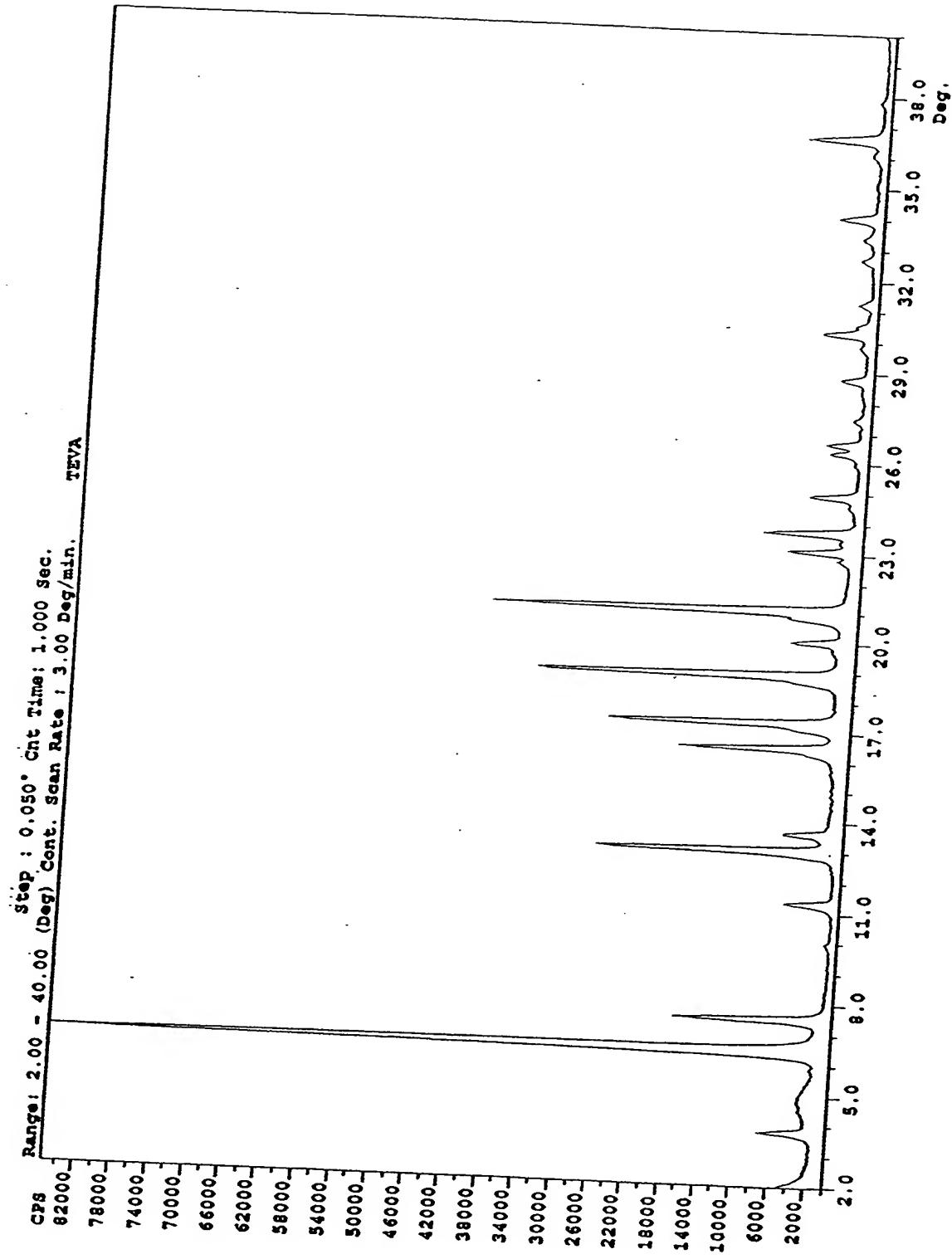


fig 4 E

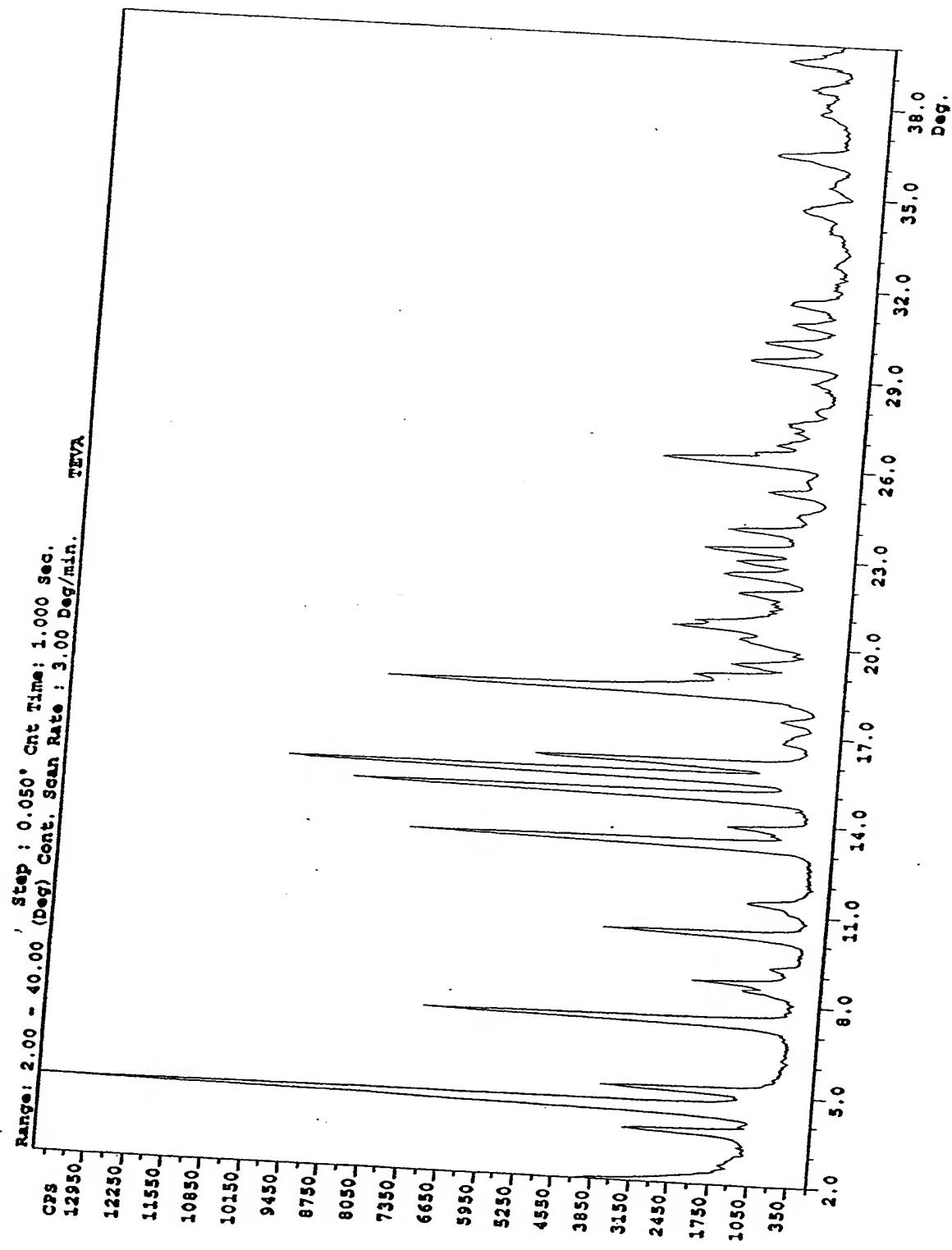


Fig. 5

CPS 21000 Range: 2.00 - 40.00 Step: 0.050° Cnt Time: 1.000 Sec.
Step: 0.050° (Deg) Cont. Scan Rate: 3.00 Deg/min.

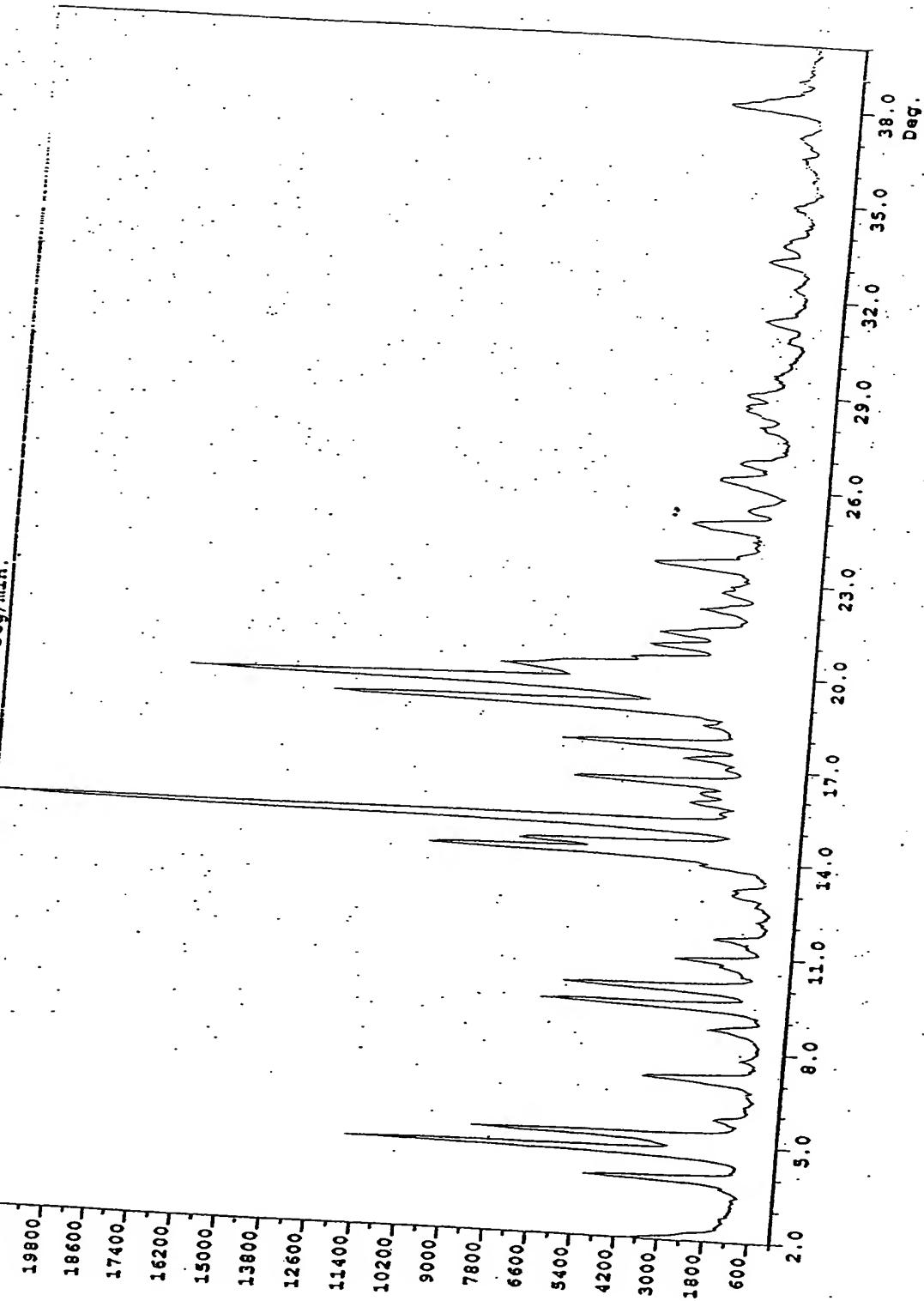


Fig. 6

G

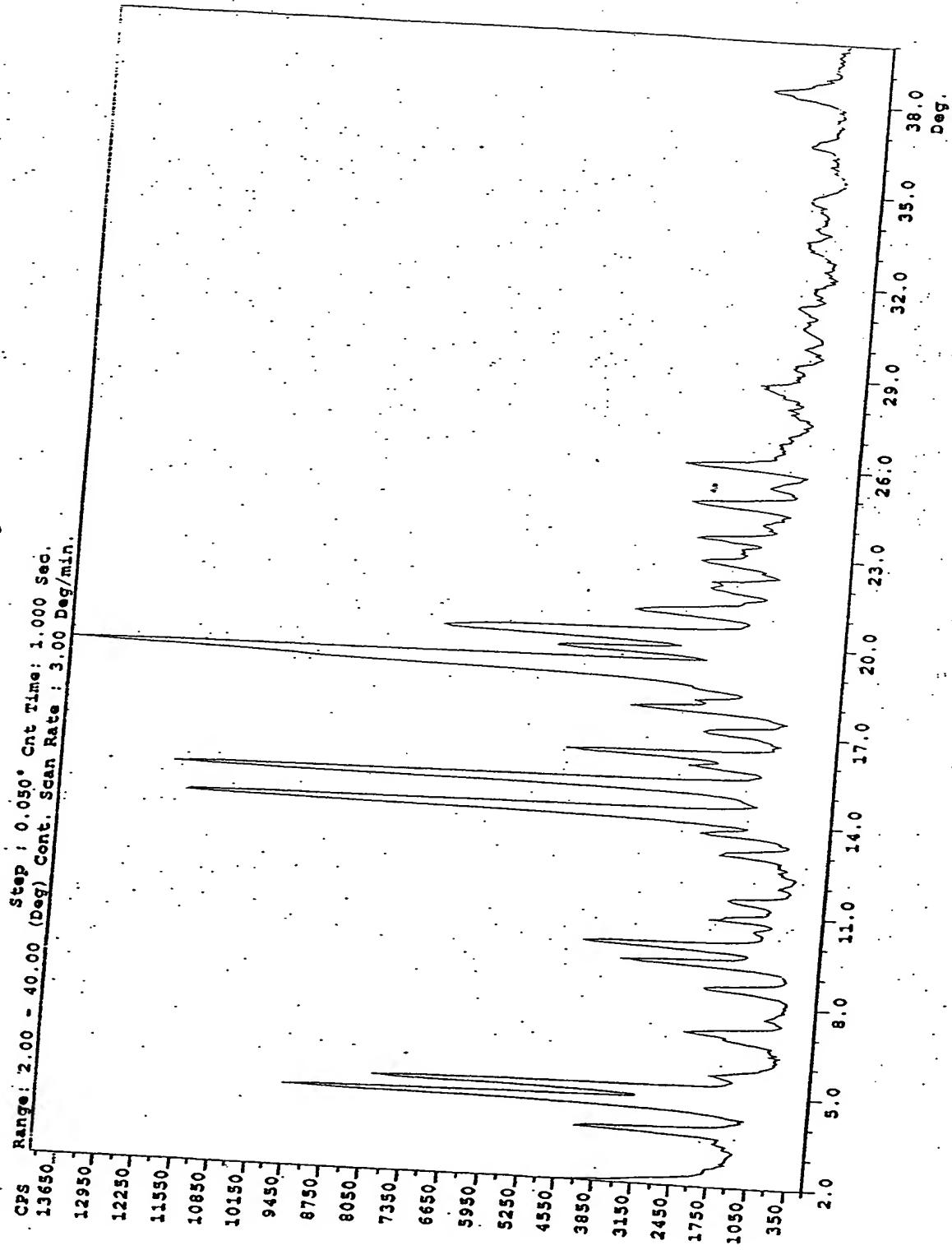


Fig. 7

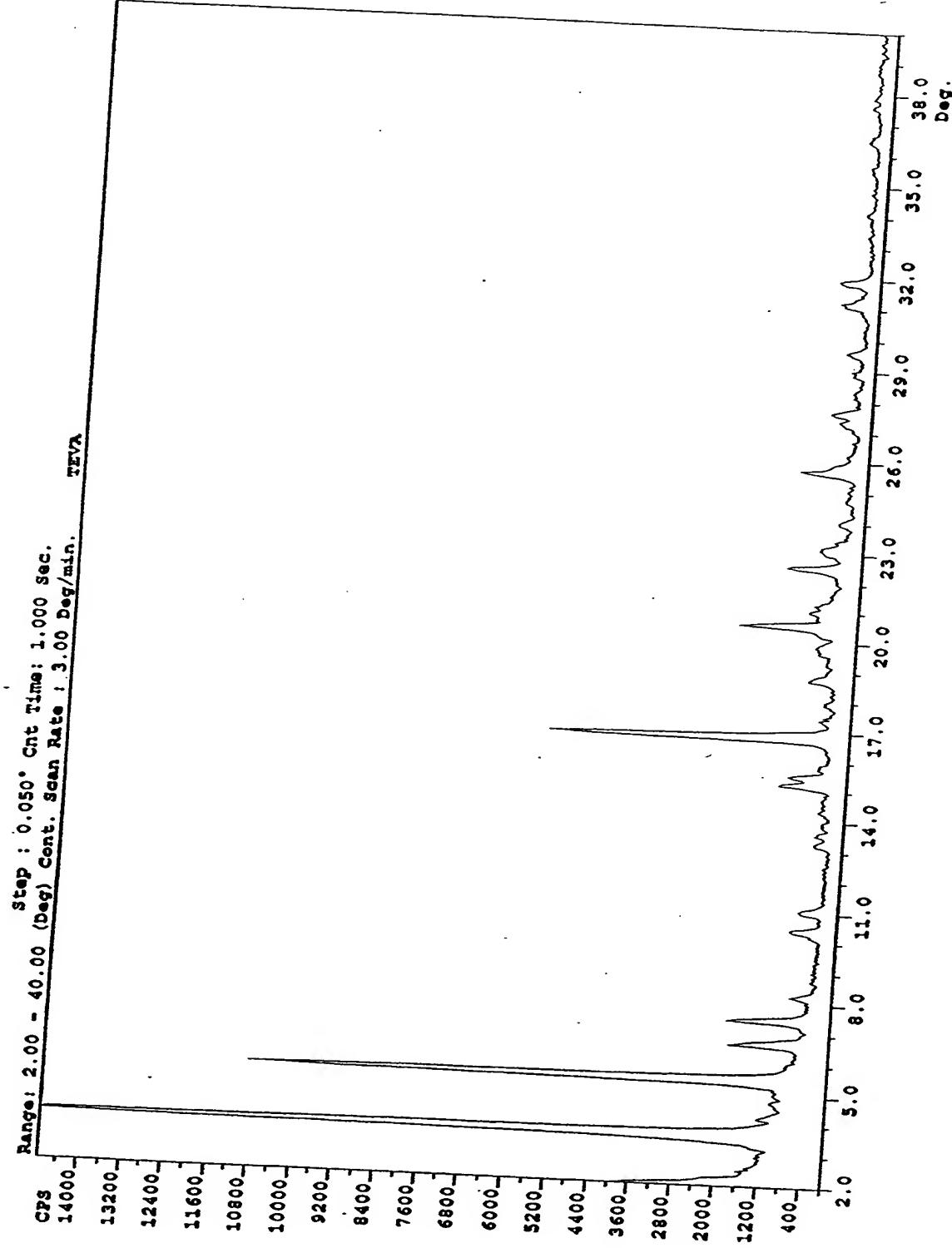


Fig. 8

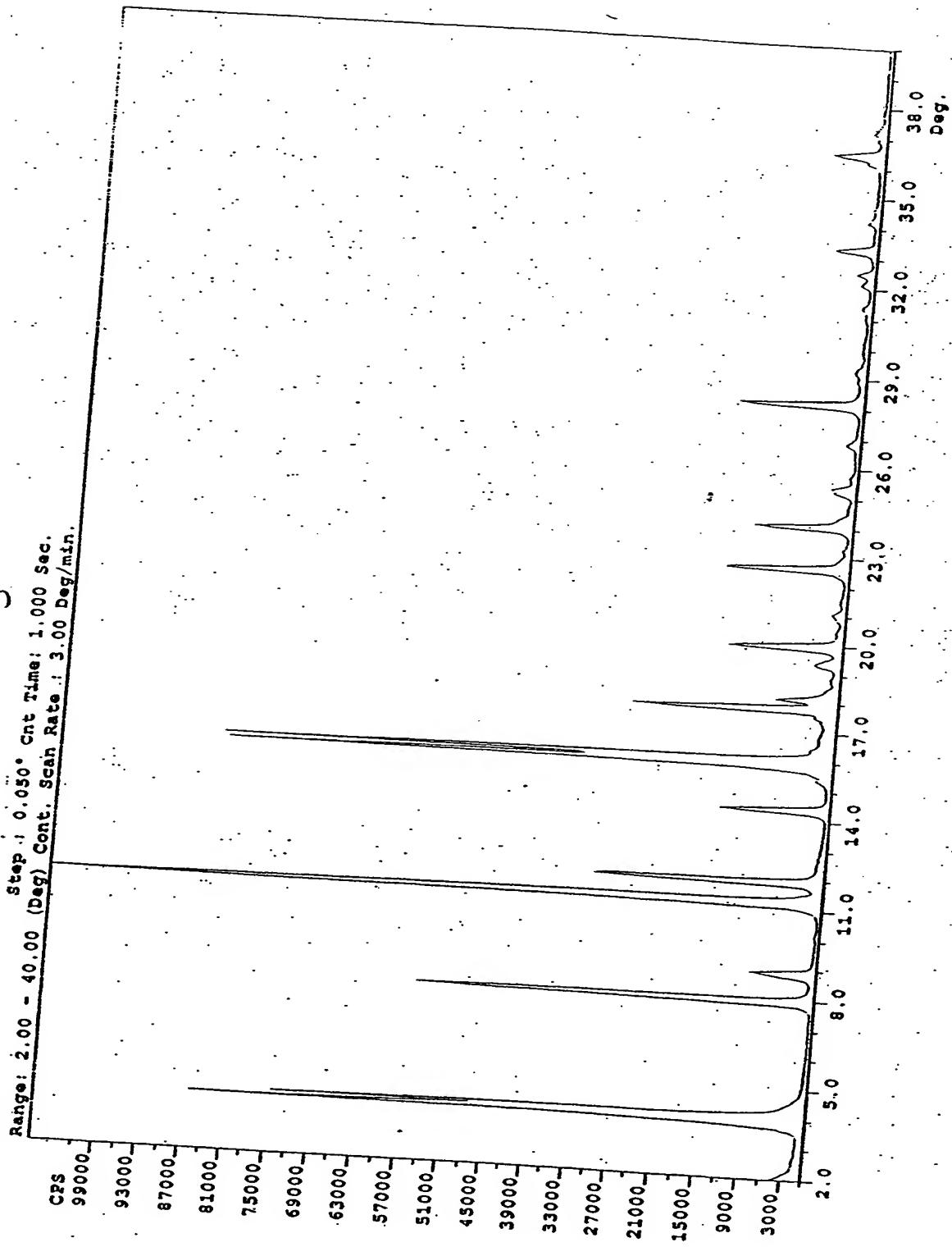


Fig. 9

K

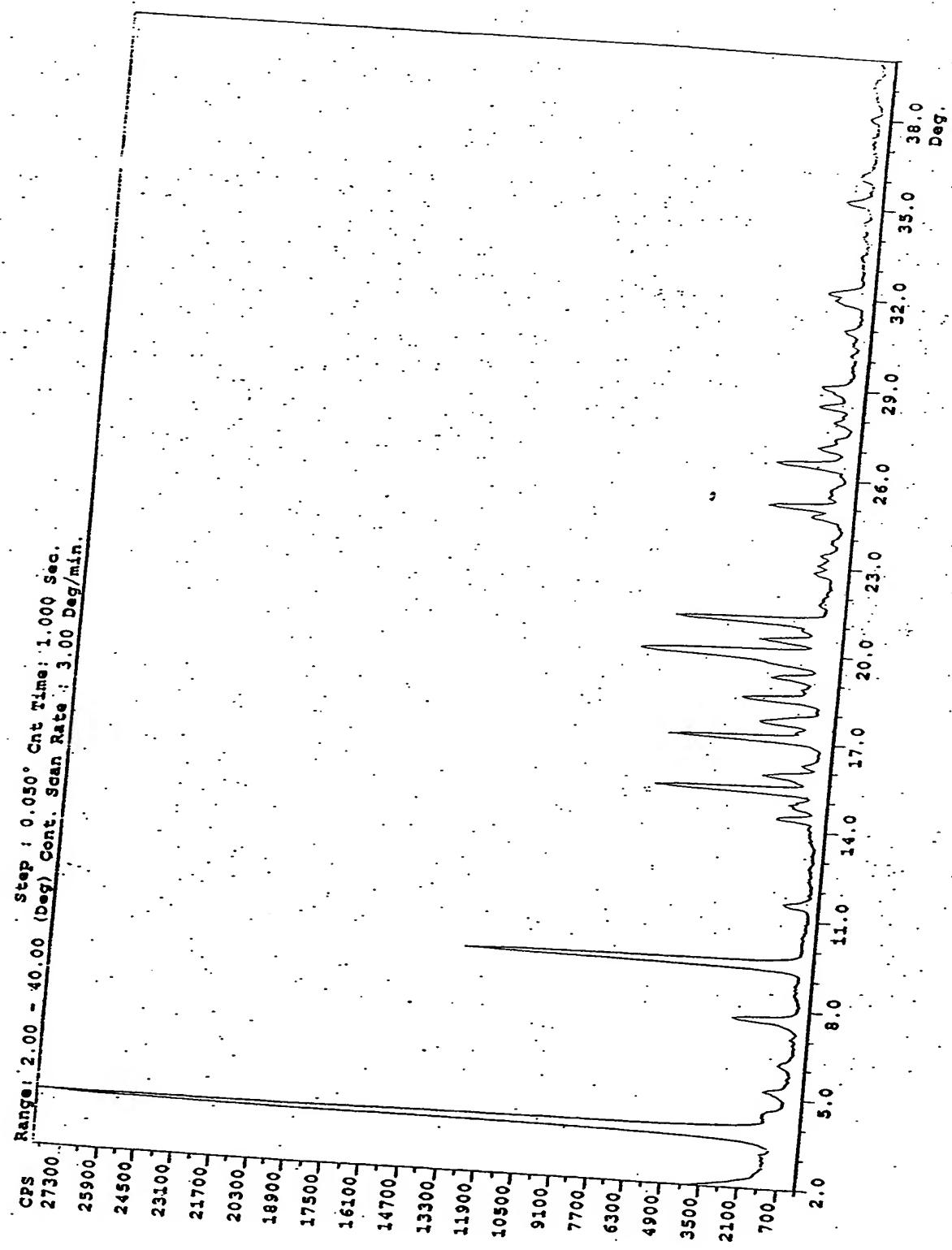
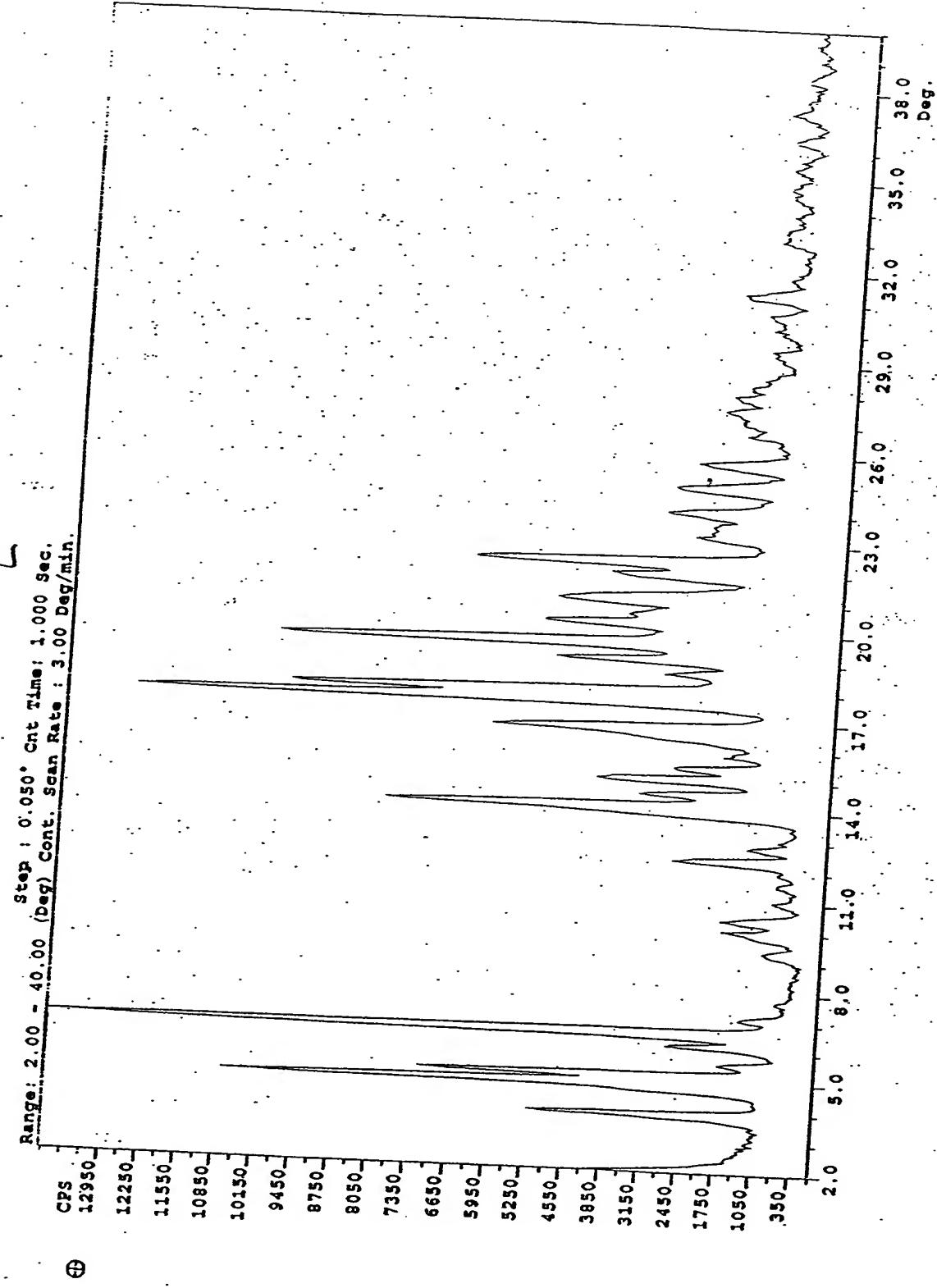


Fig. 10 L



679.41

Range: 2.00 - 40.00. Step: 0.050. Cnt Time: 1.000 SEC.
CPS 7000
6600
6200
5800
5400
5000
4600
4200
3800
3400
3000
2600
2200
1800
1400
1000
600
200

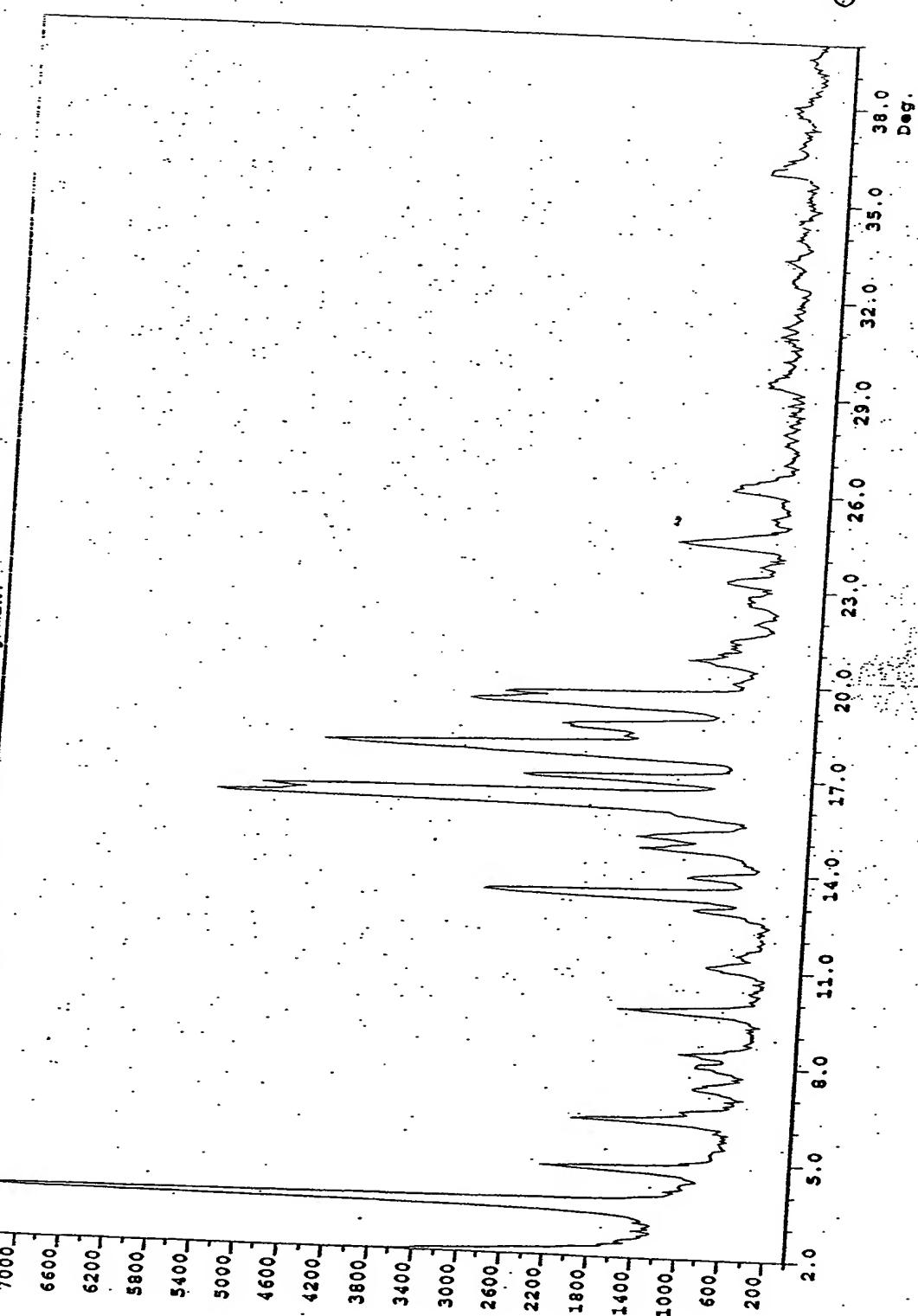


Fig. 12

Range: 2.00 - 40.00 (Deg) Cont. Scan Rate: 3.00 Deg/min.

Stop: 0.050° (Deg) Cnt Time: 1.000 Sec.

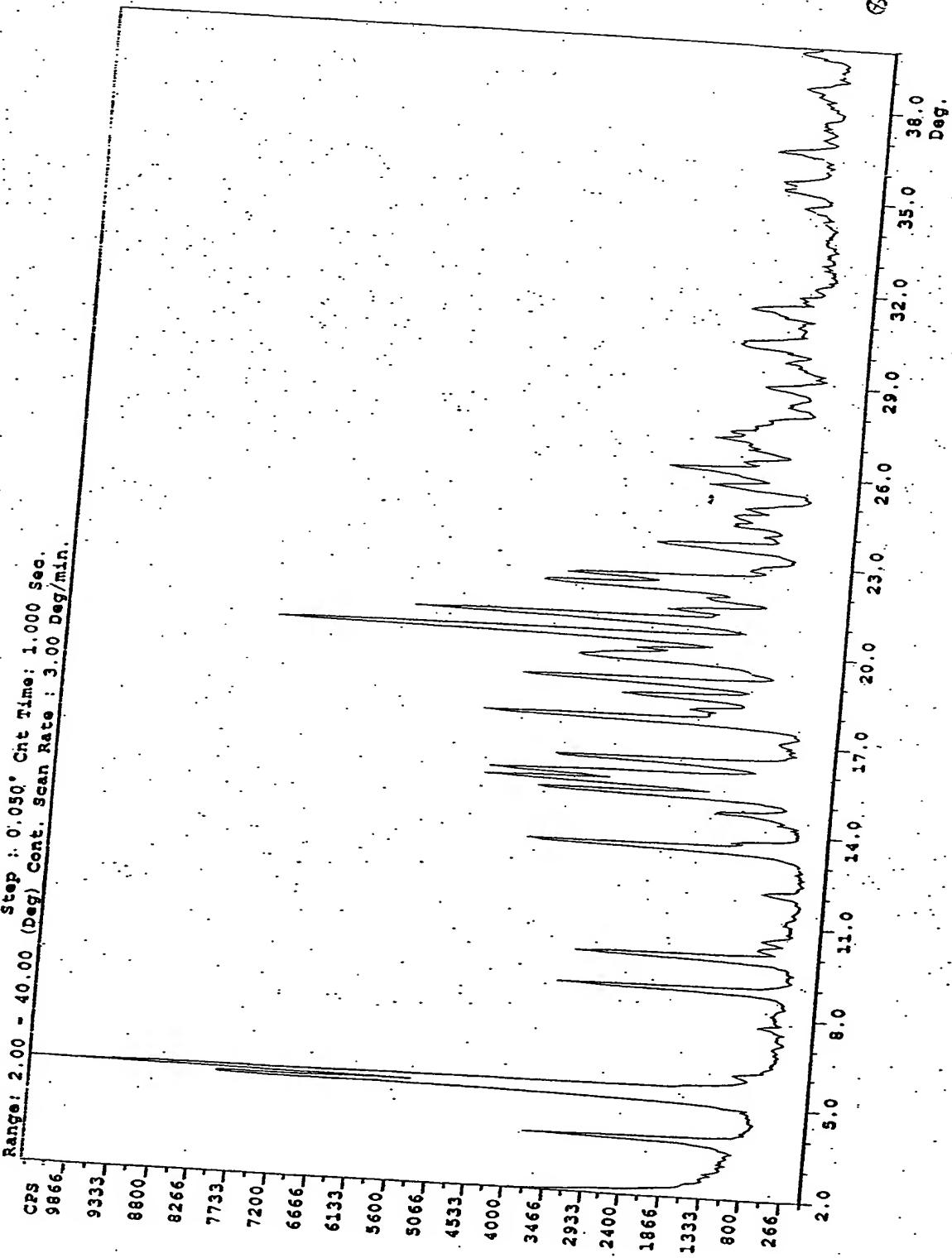


Fig. 13

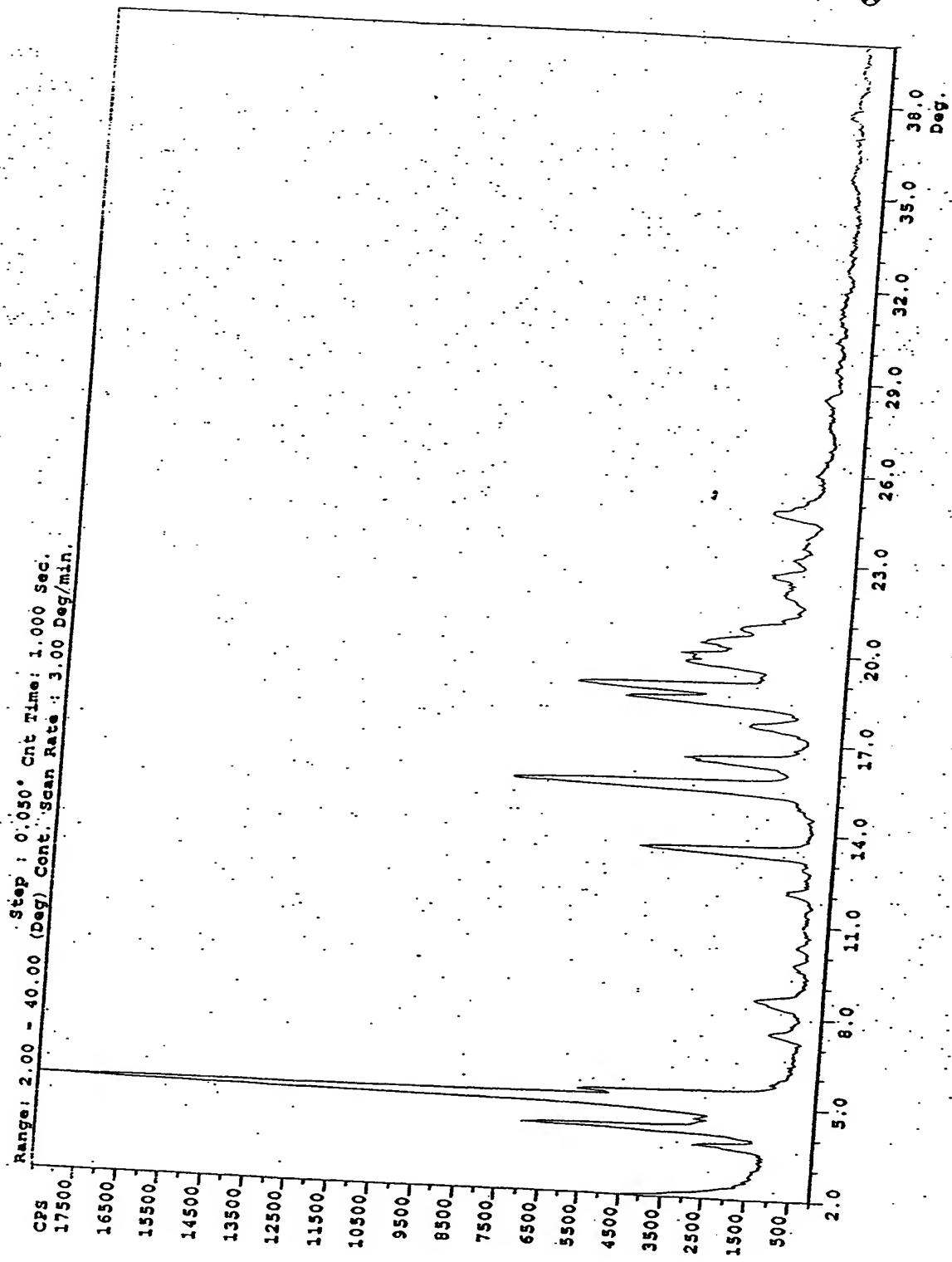


Fig. 14

P

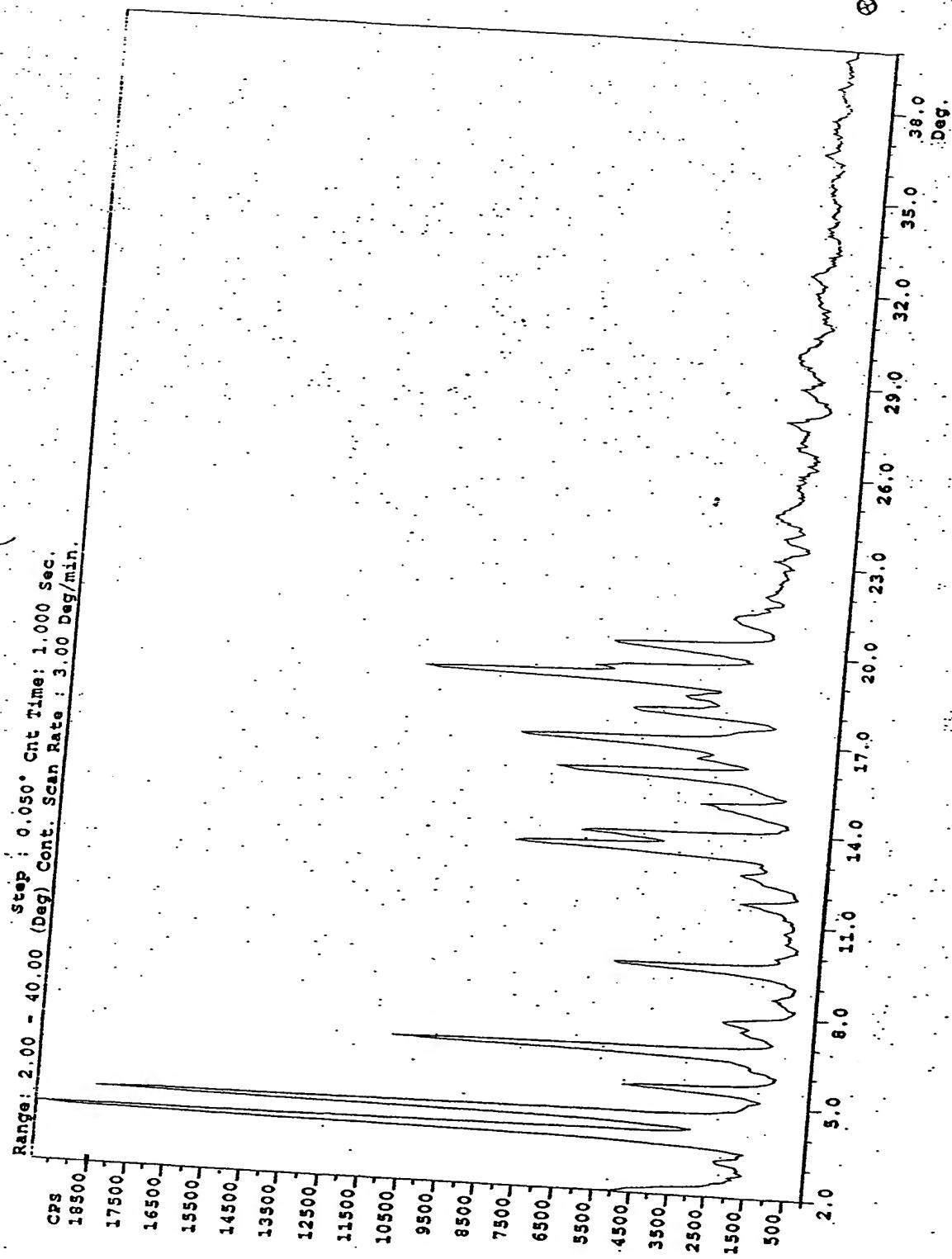
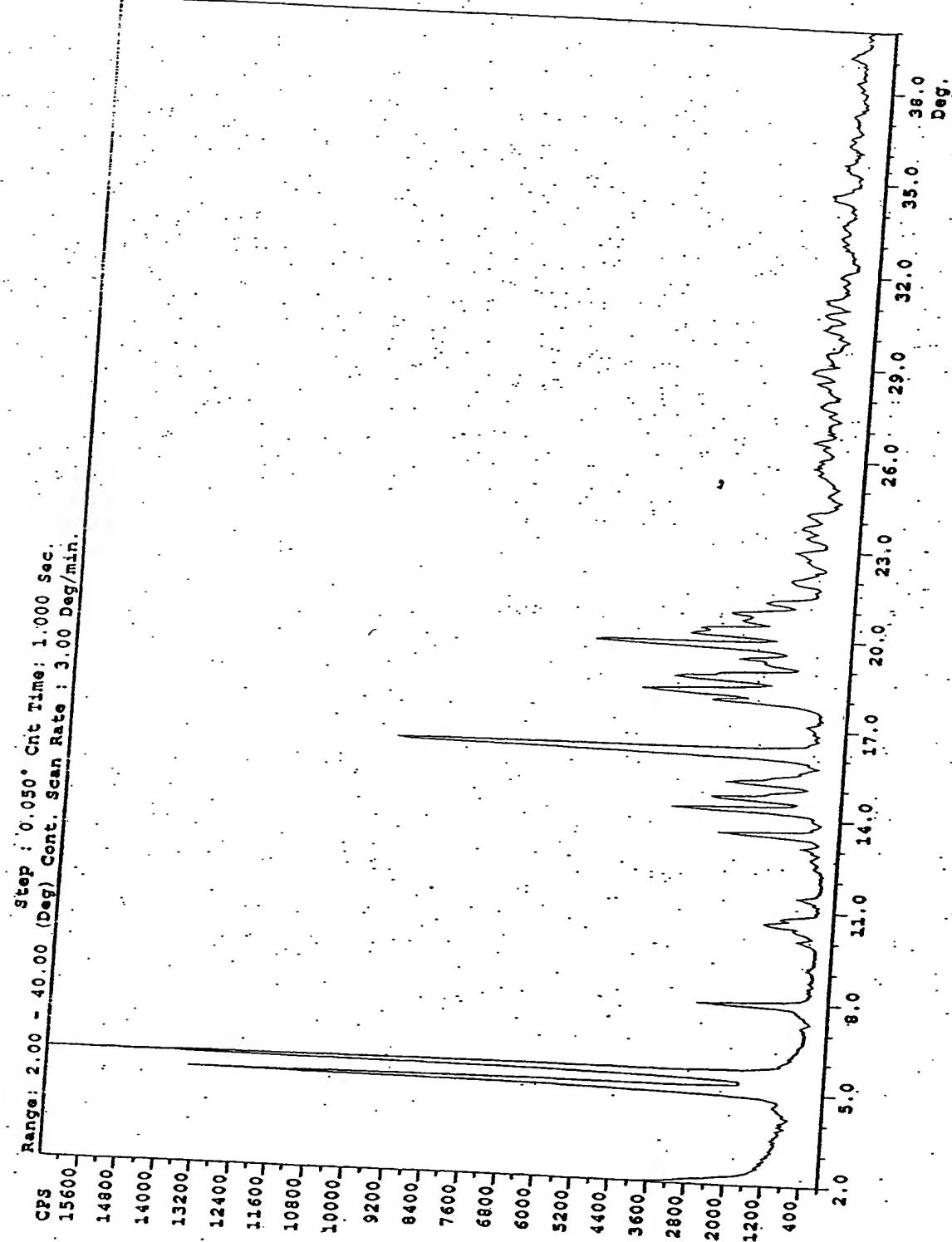


Fig. 15

Q



4, J. 16

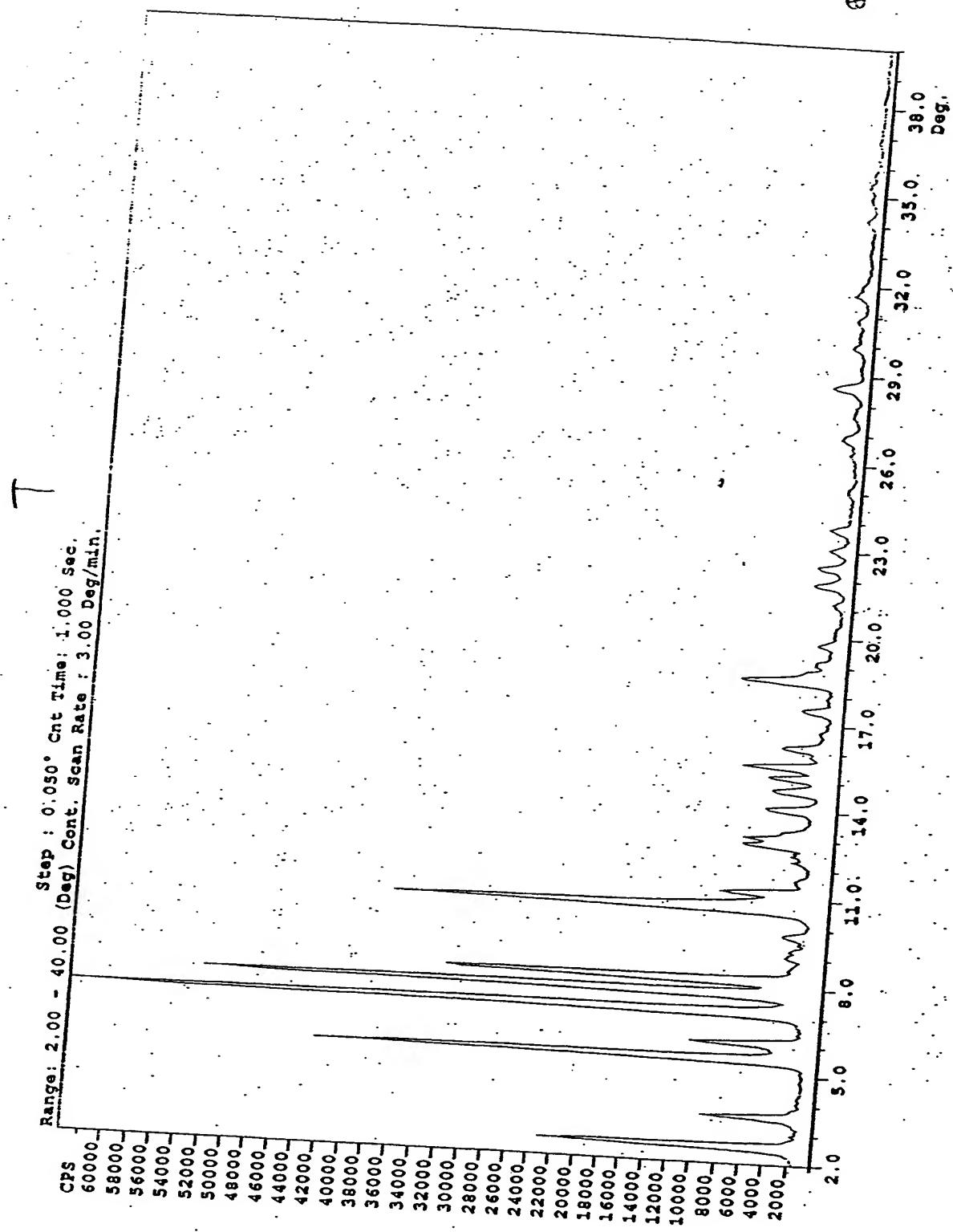


Fig. 17

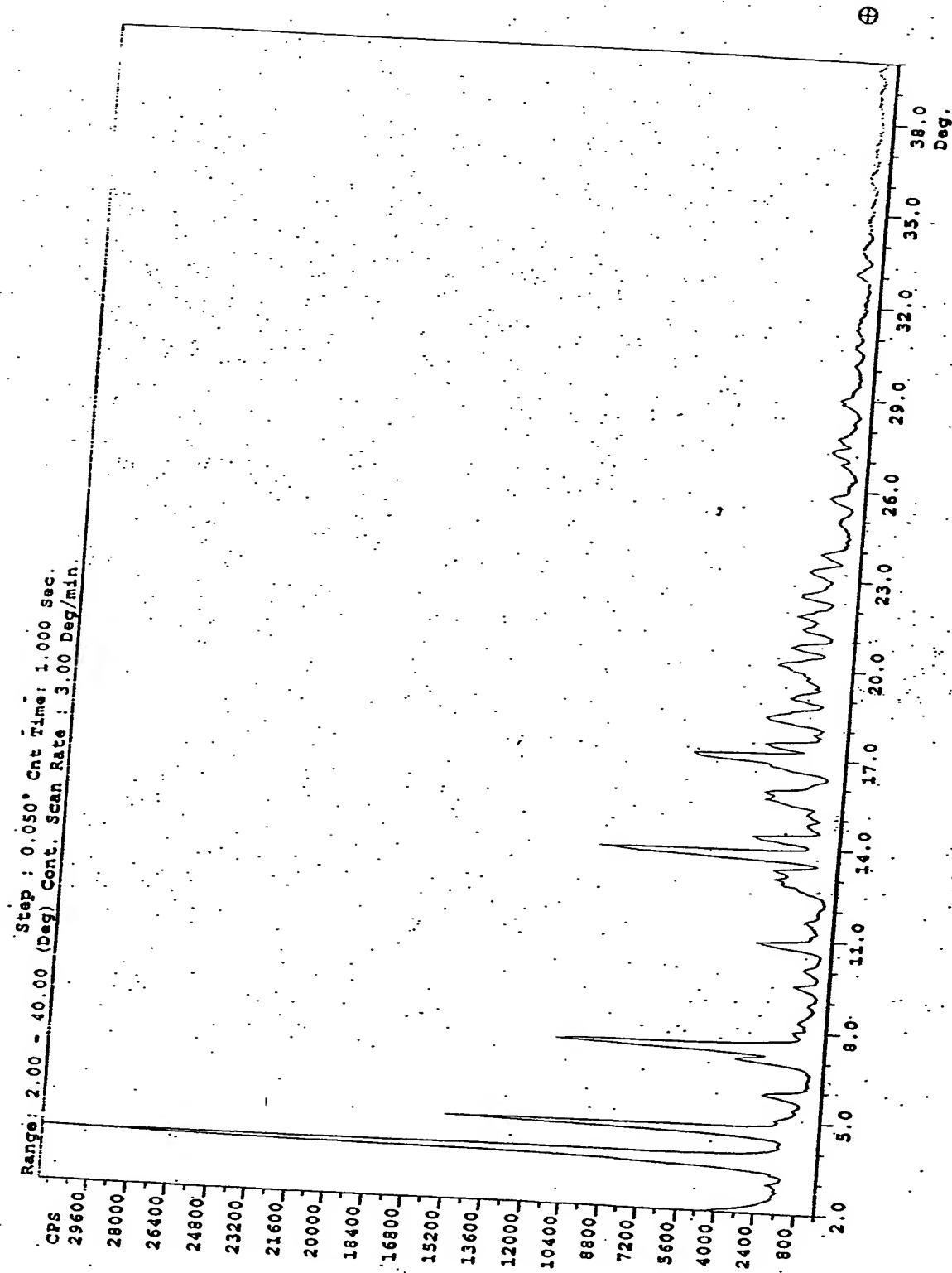


Fig. 18

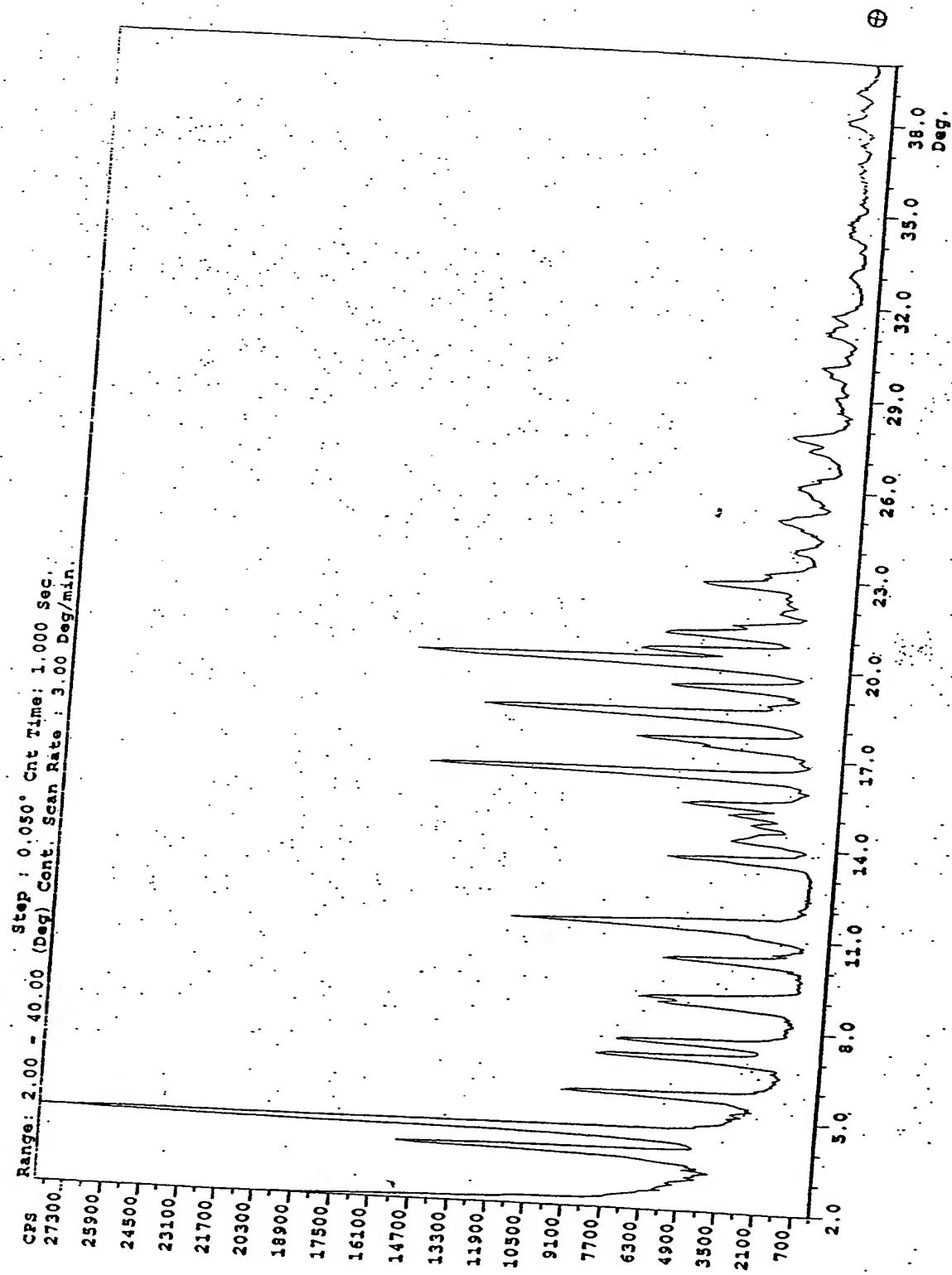


Fig 19

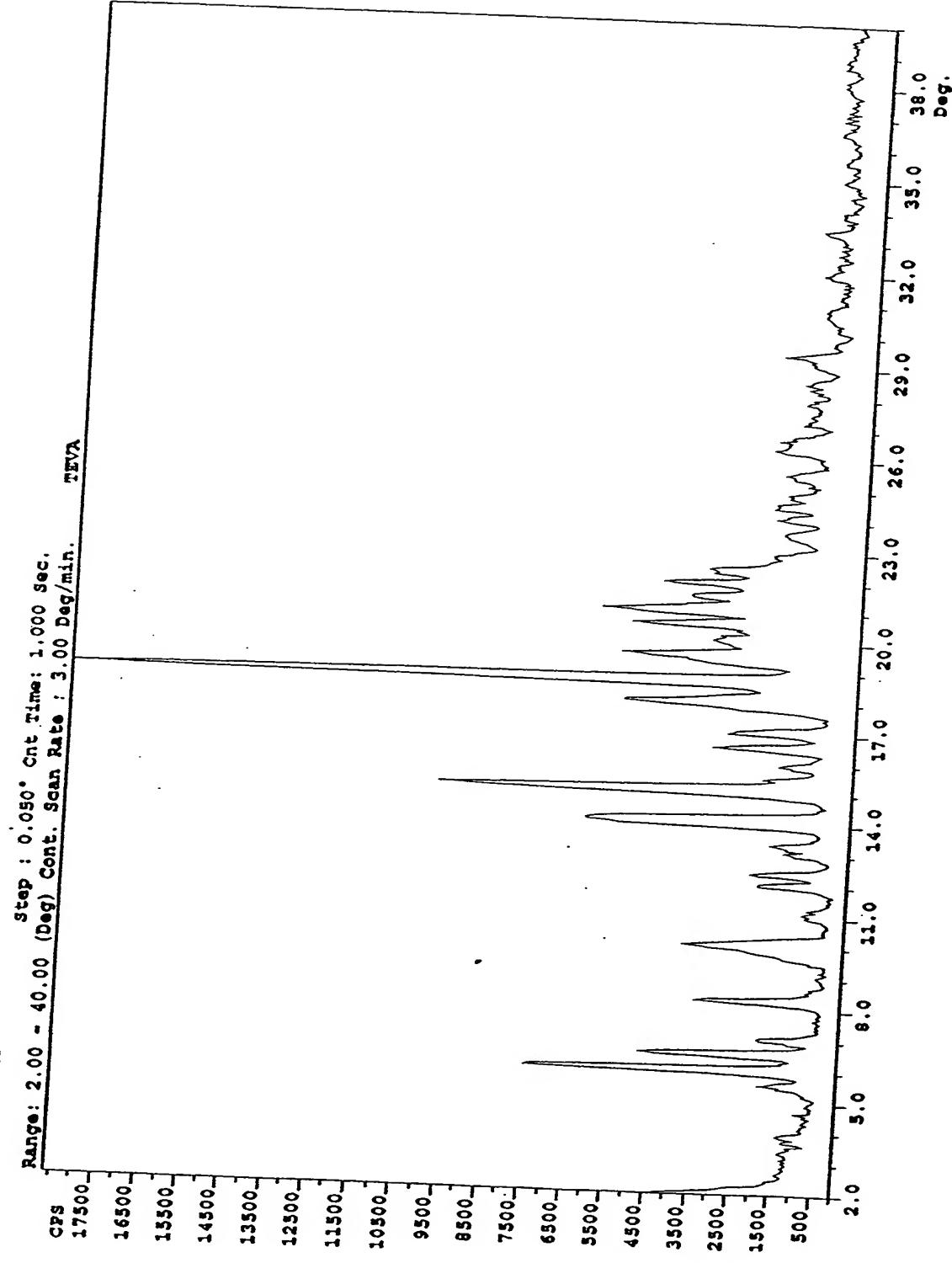


Figure 20 - Natta line Form Z

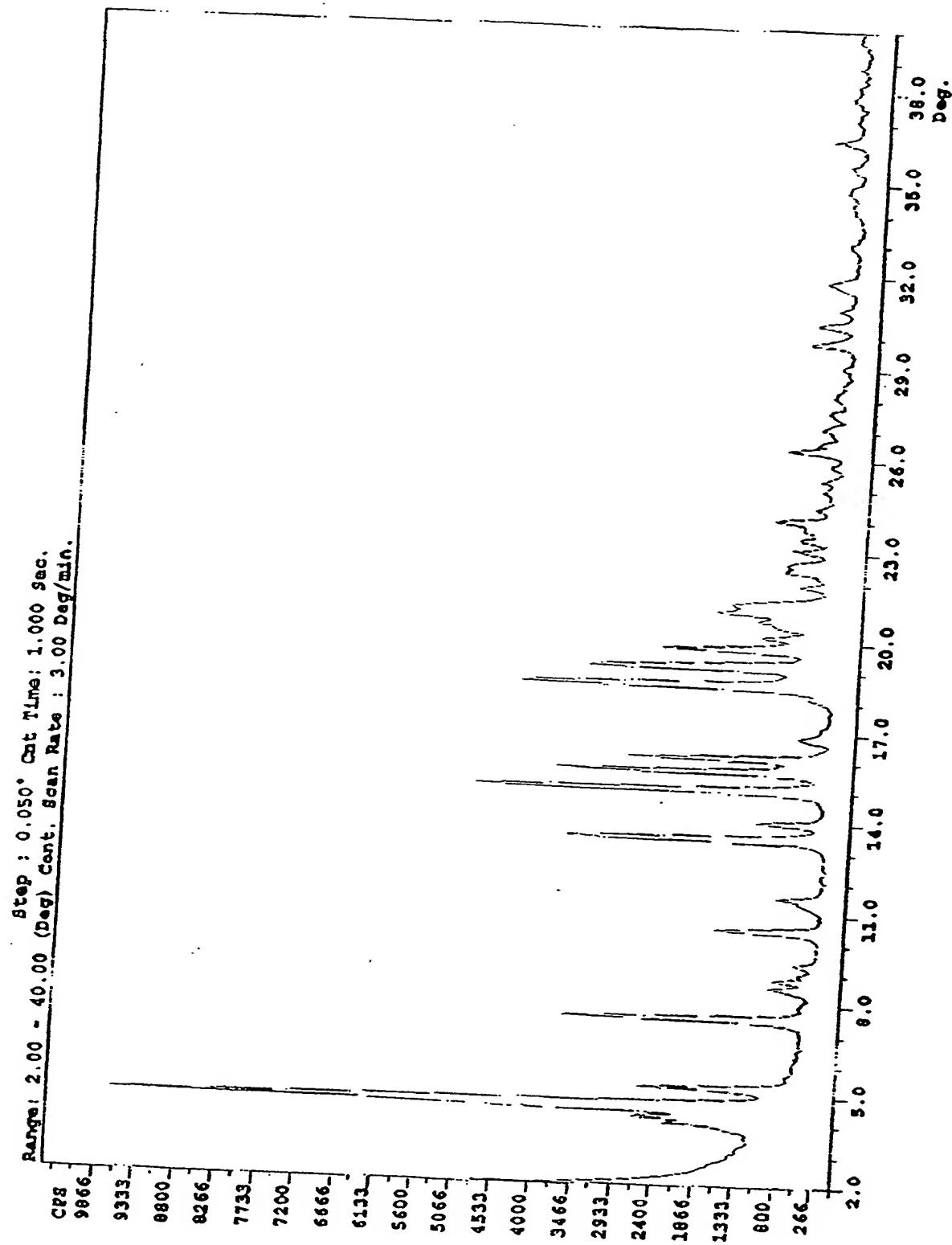


Fig 24 α

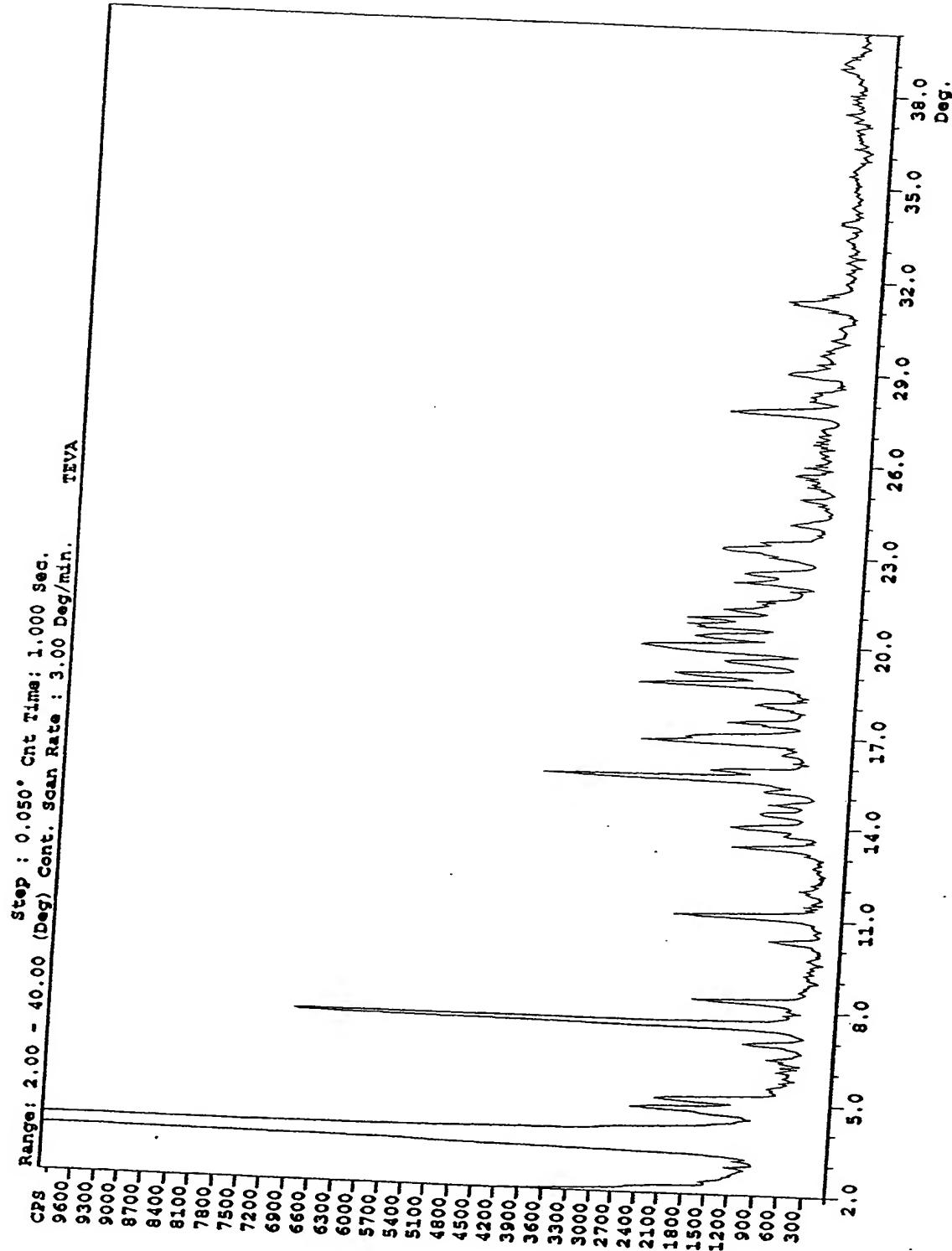


Fig. 28 β

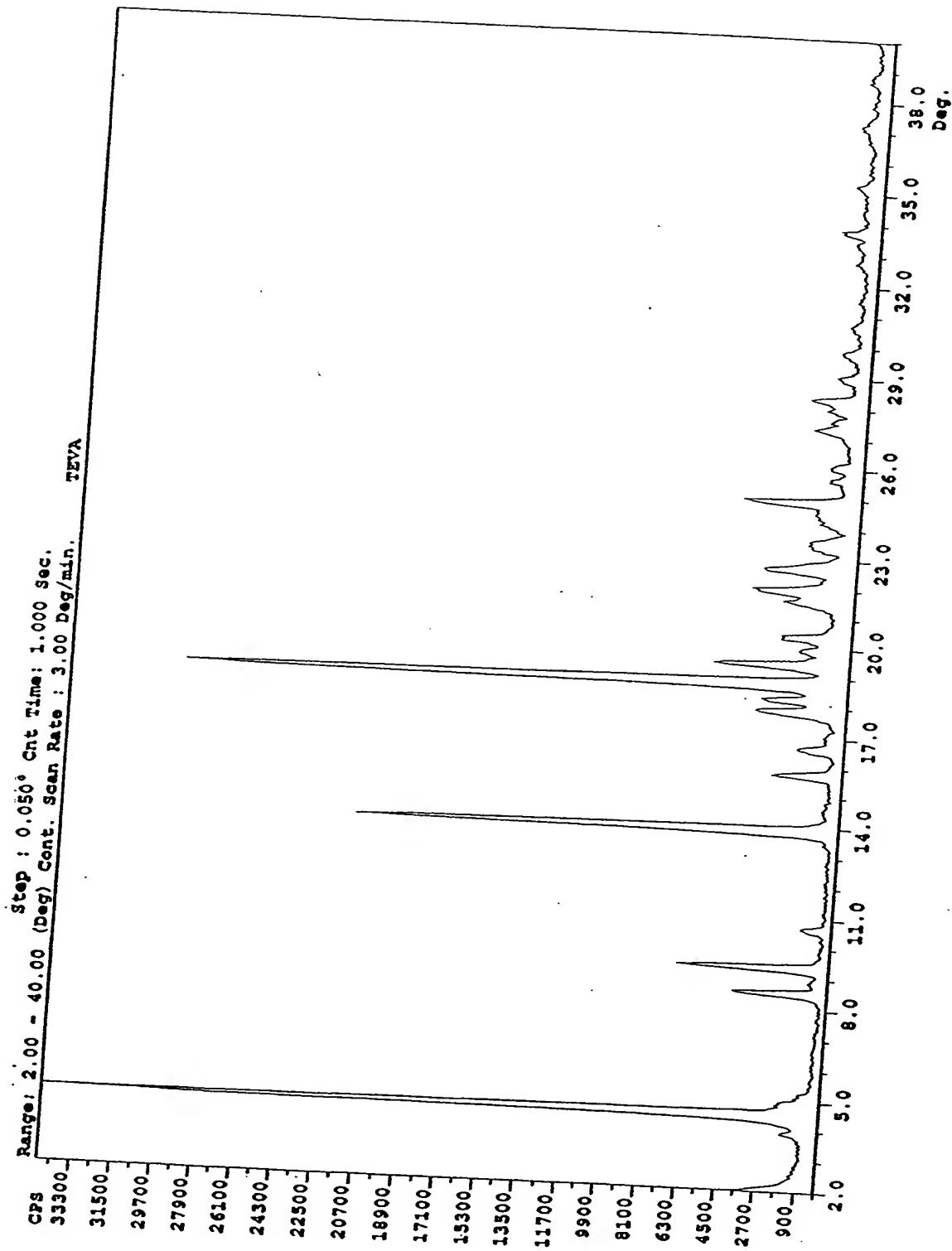


Fig 23 10

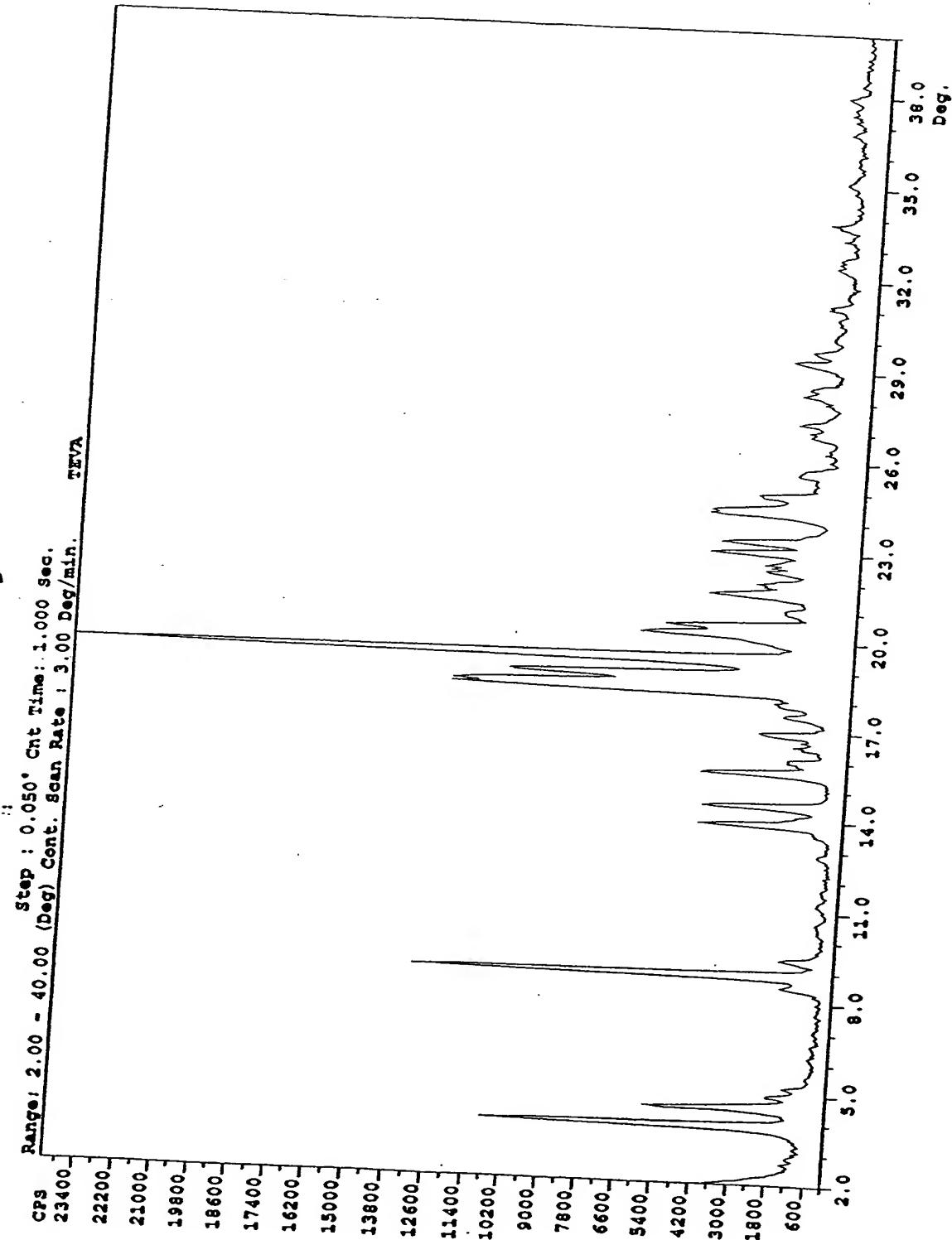


Fig 24

Fig 24

Step : 0.050° Cnt Time: 1.000 sec.
Range: 2.00 - 40.00 (Deg) Cont. Scan Rate : 3.00 Deg/min.
CPS 22200
21000
19800
18600
17400
16200
15000
13800
12600
11400
10200
9000
7800
6600
5400
4200
3000
1800
600

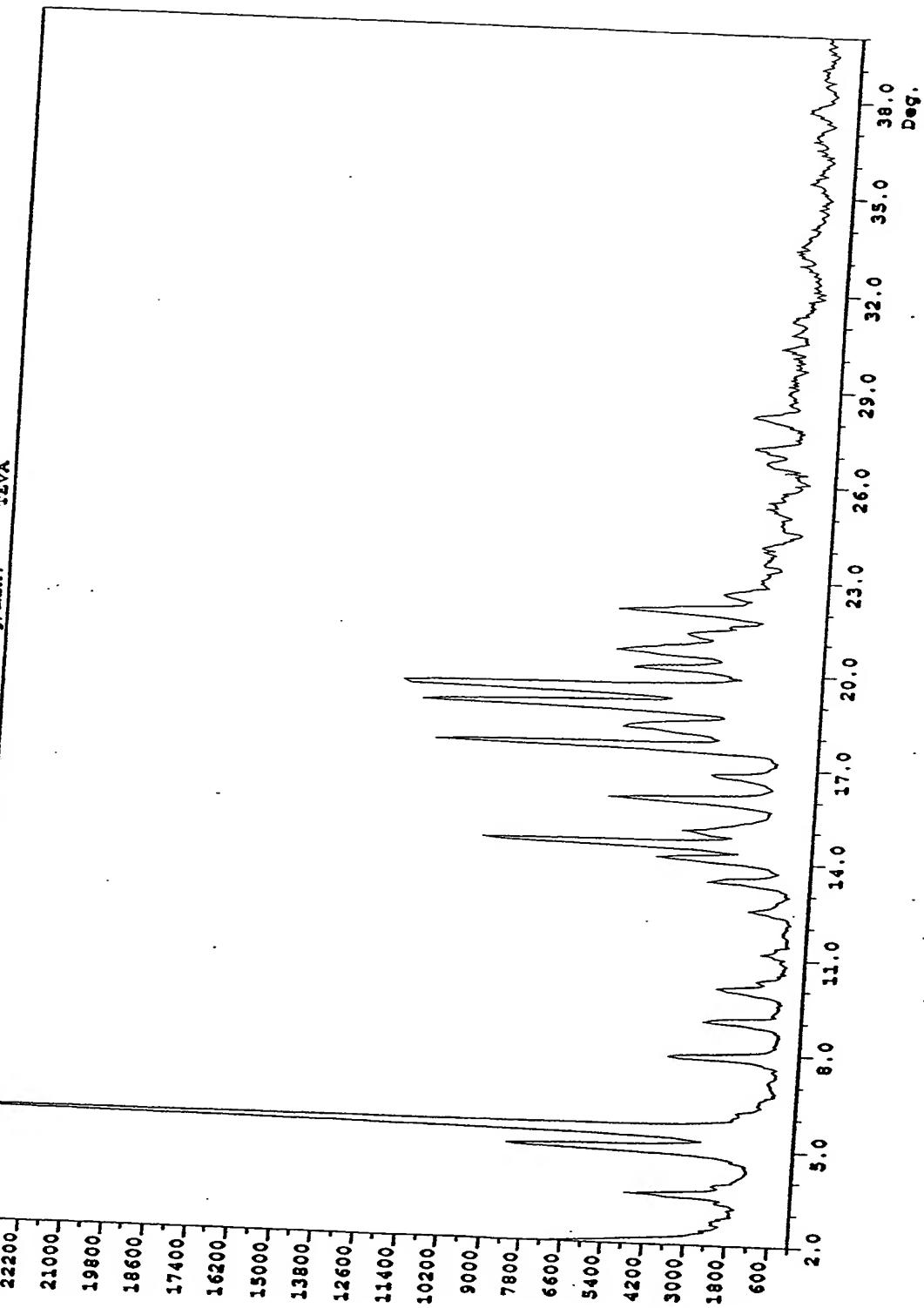


Fig 25

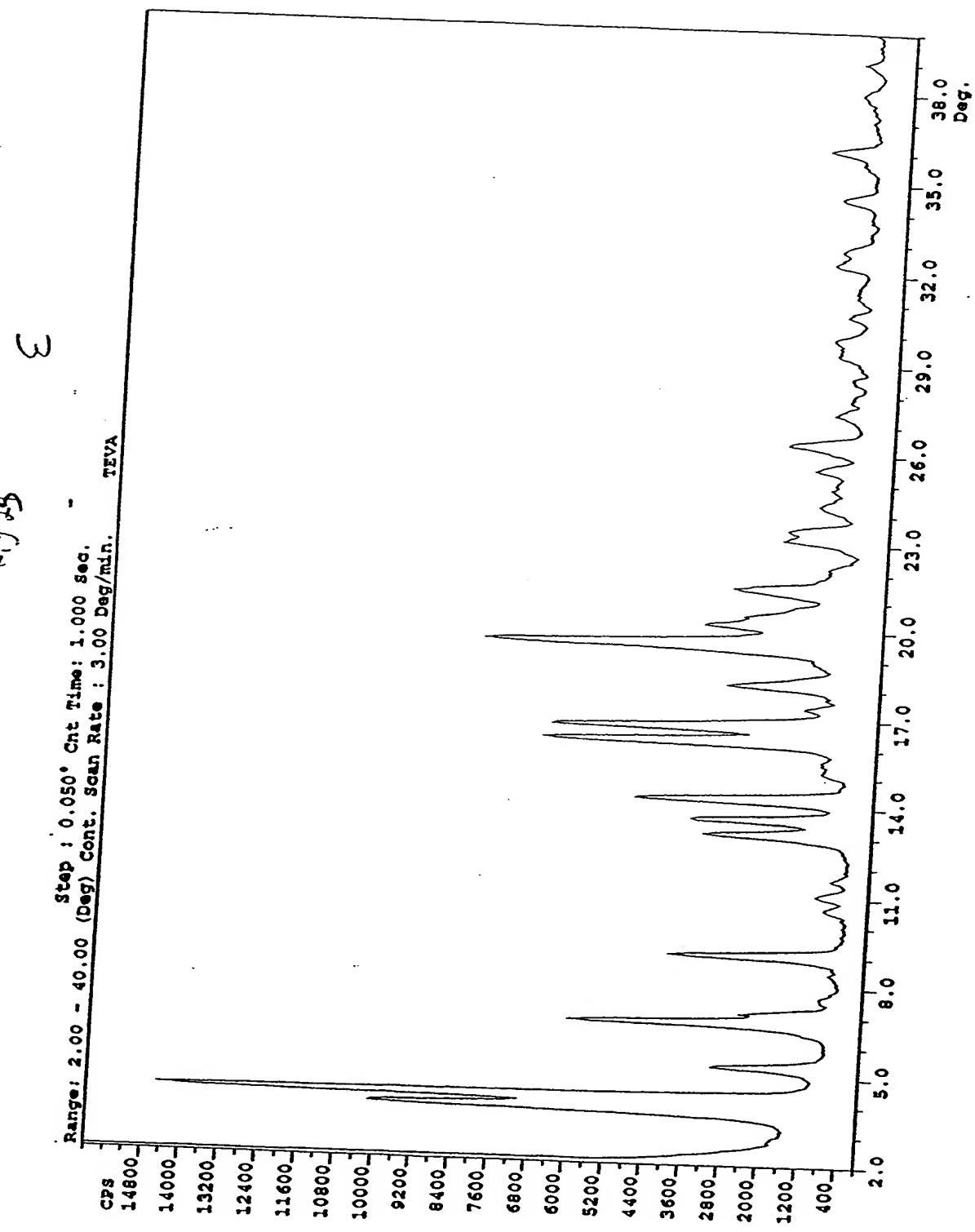


FIGURE 26

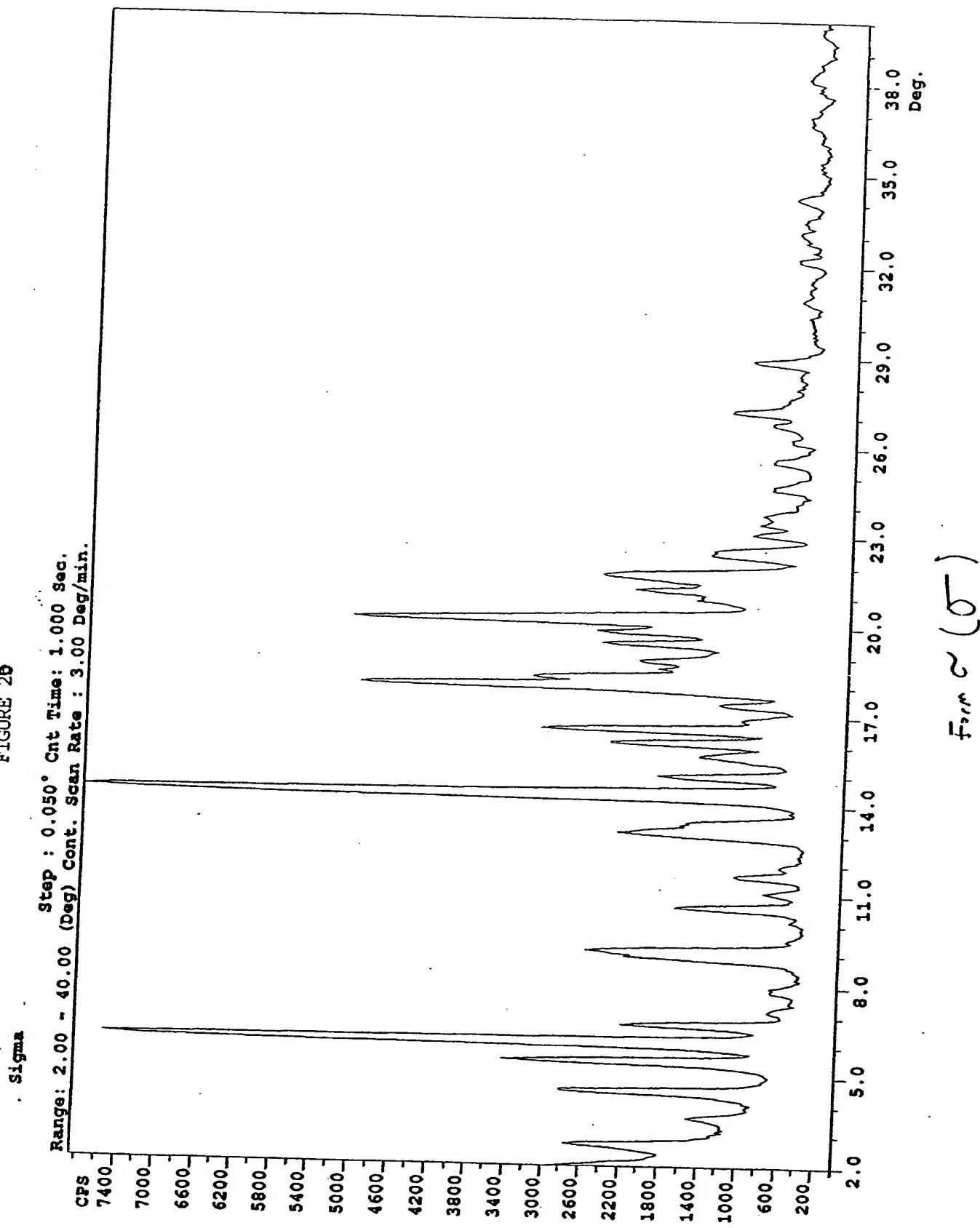


FIGURE 27.

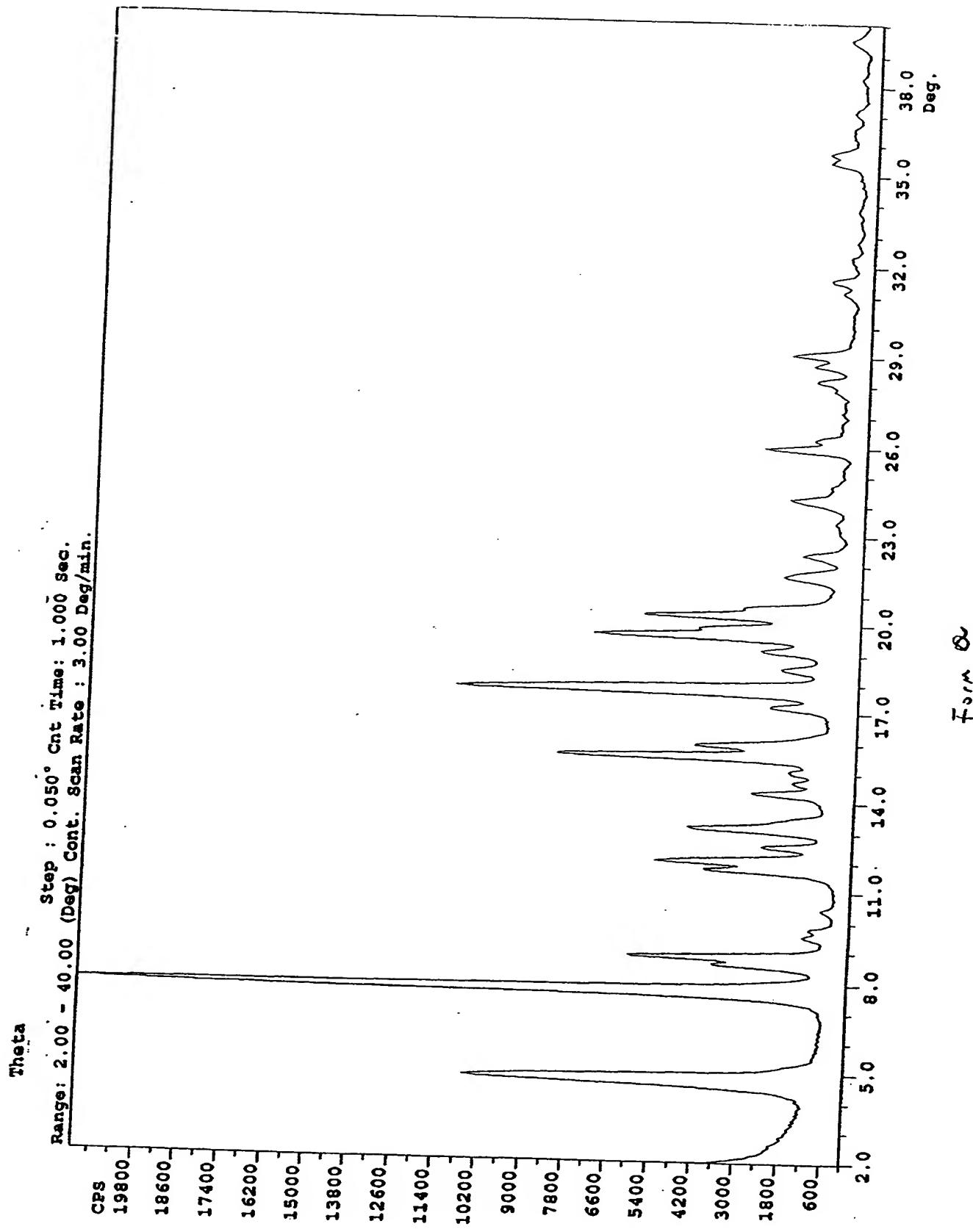


Figure 58 - Thermal stability chart

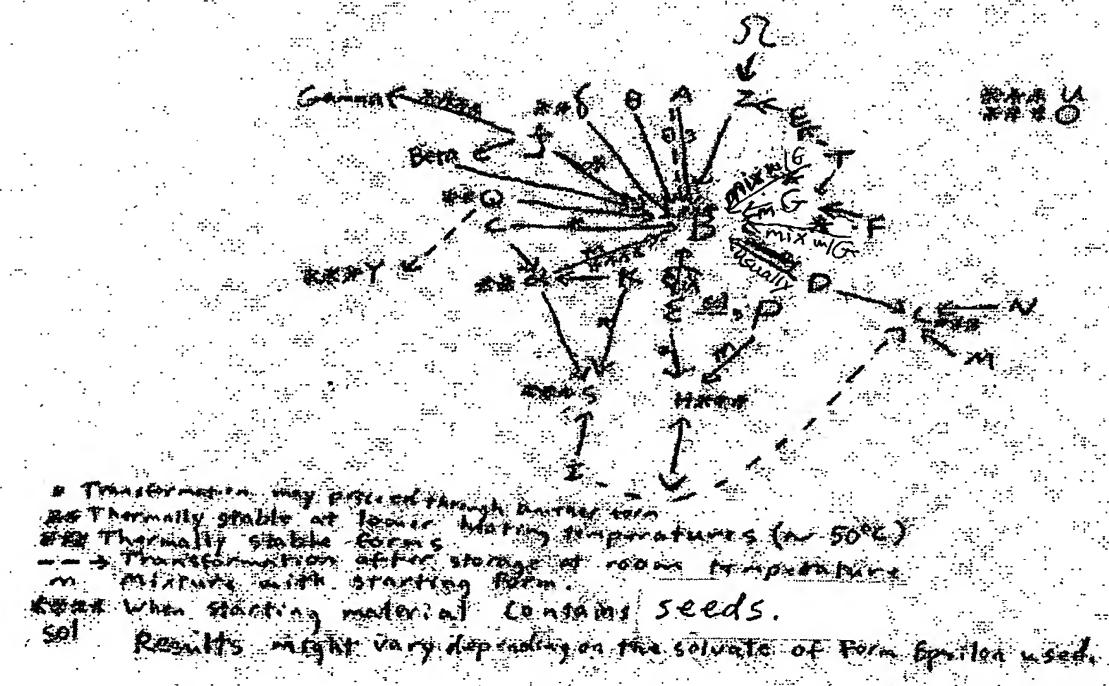


FIGURE 29
Form 2

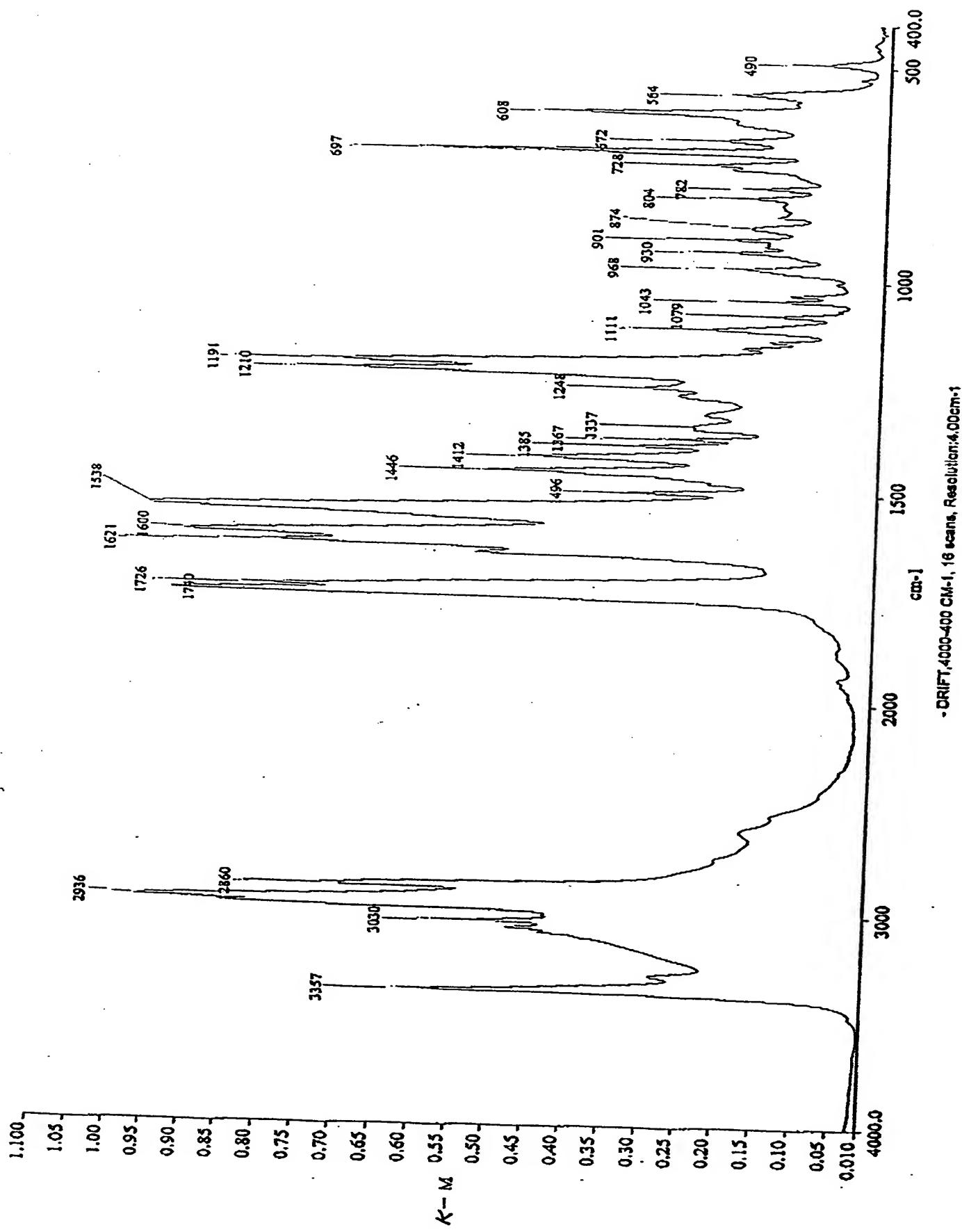


FIGURE 30
- C-13 NMR

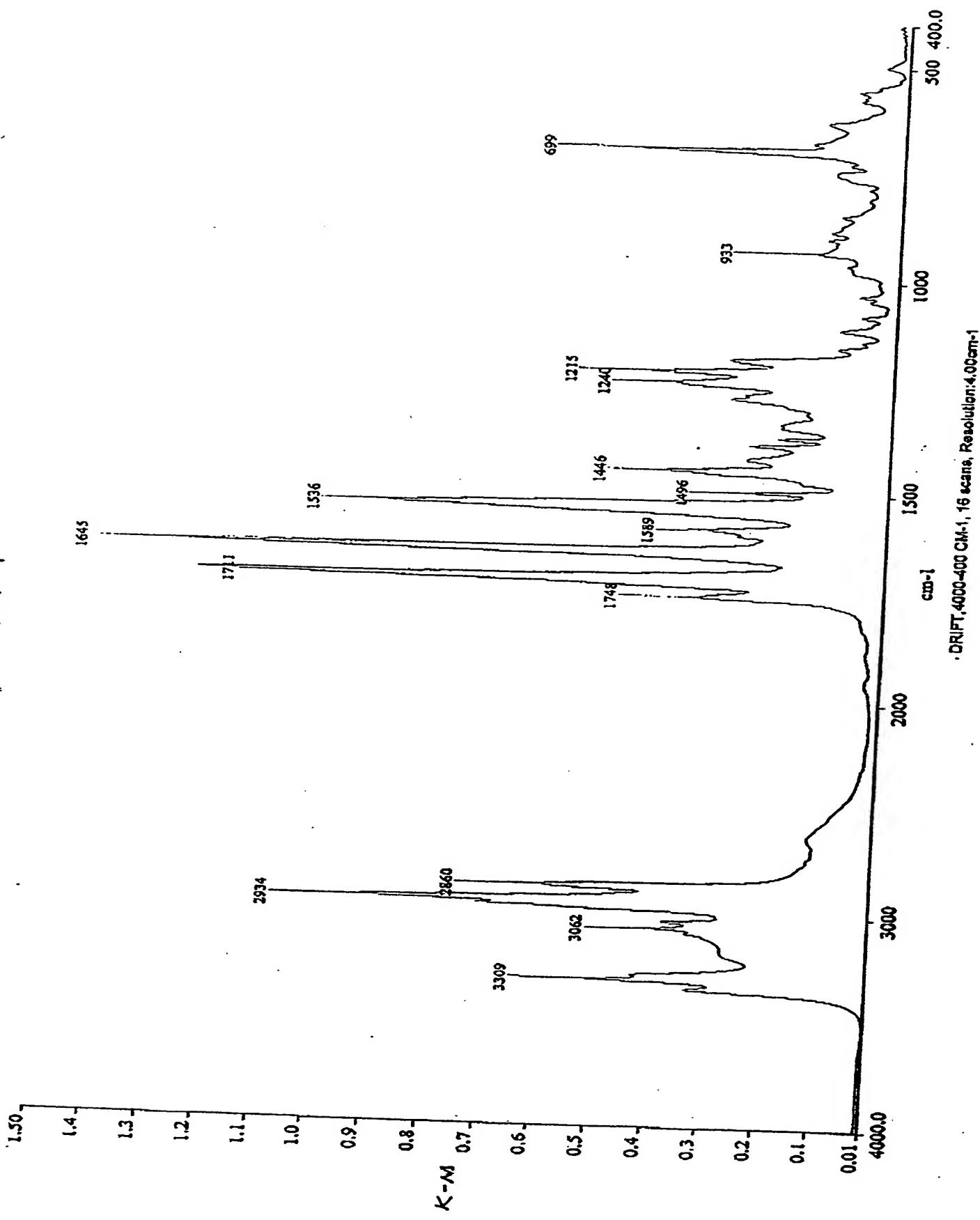


FIGURE 30
Form Q

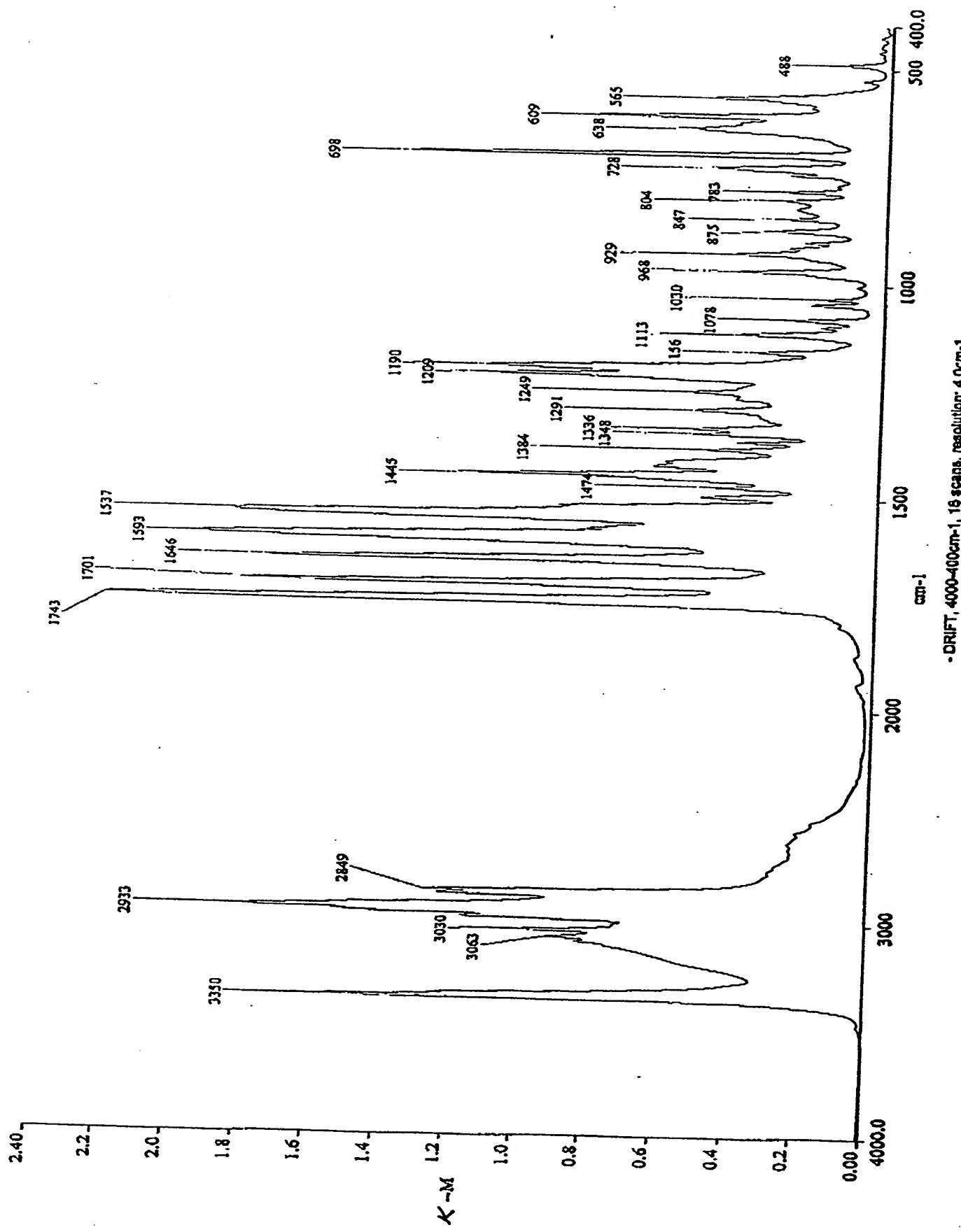


Figure 32 - *Nastaglinide Form Z*

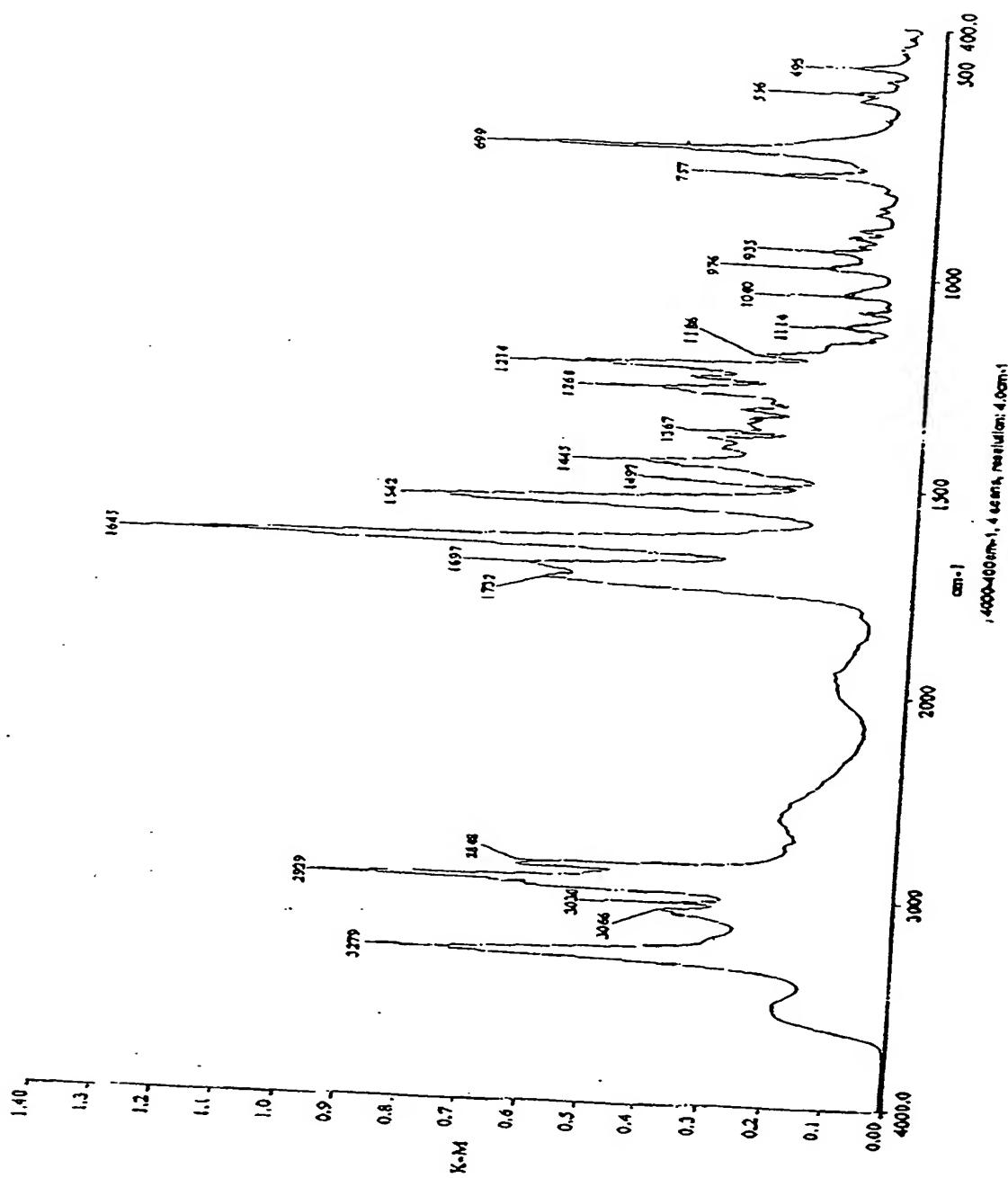


Figure 3
Fig. 3

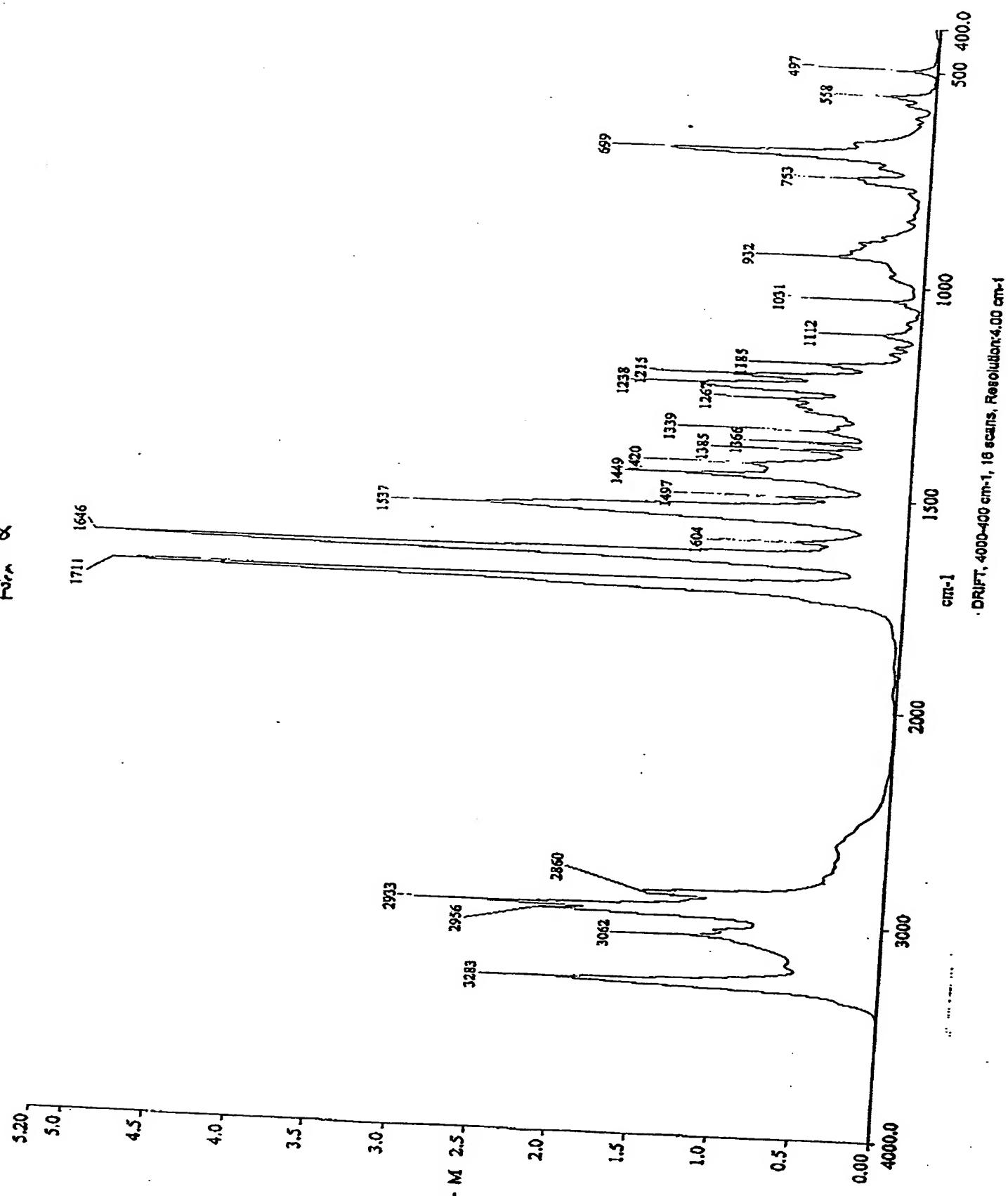


FIGURE 34
Four Delta's

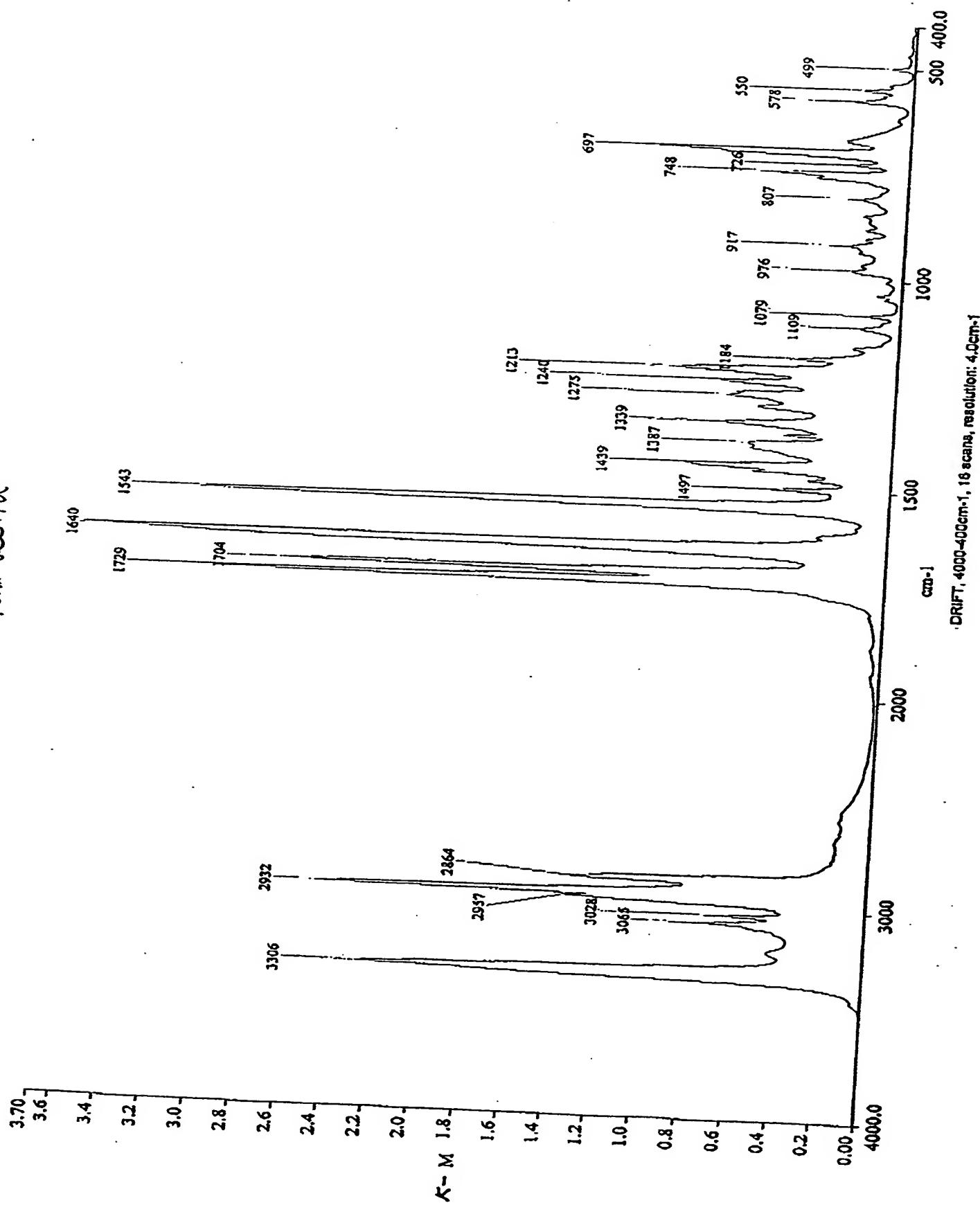


FIGURE 35

- Form δ

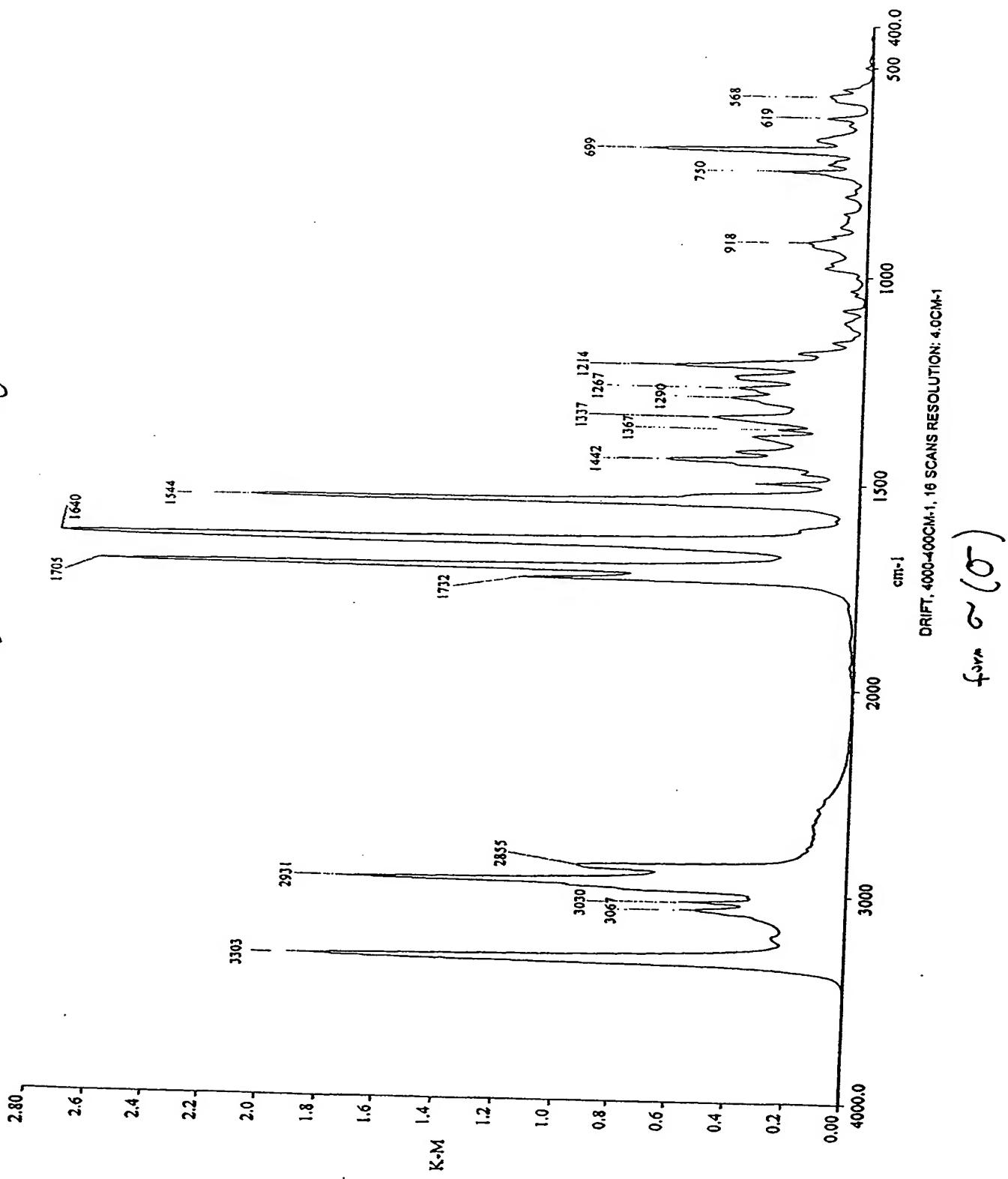


FIGURE 36 Form A

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min
N2, 40.0 ml/min

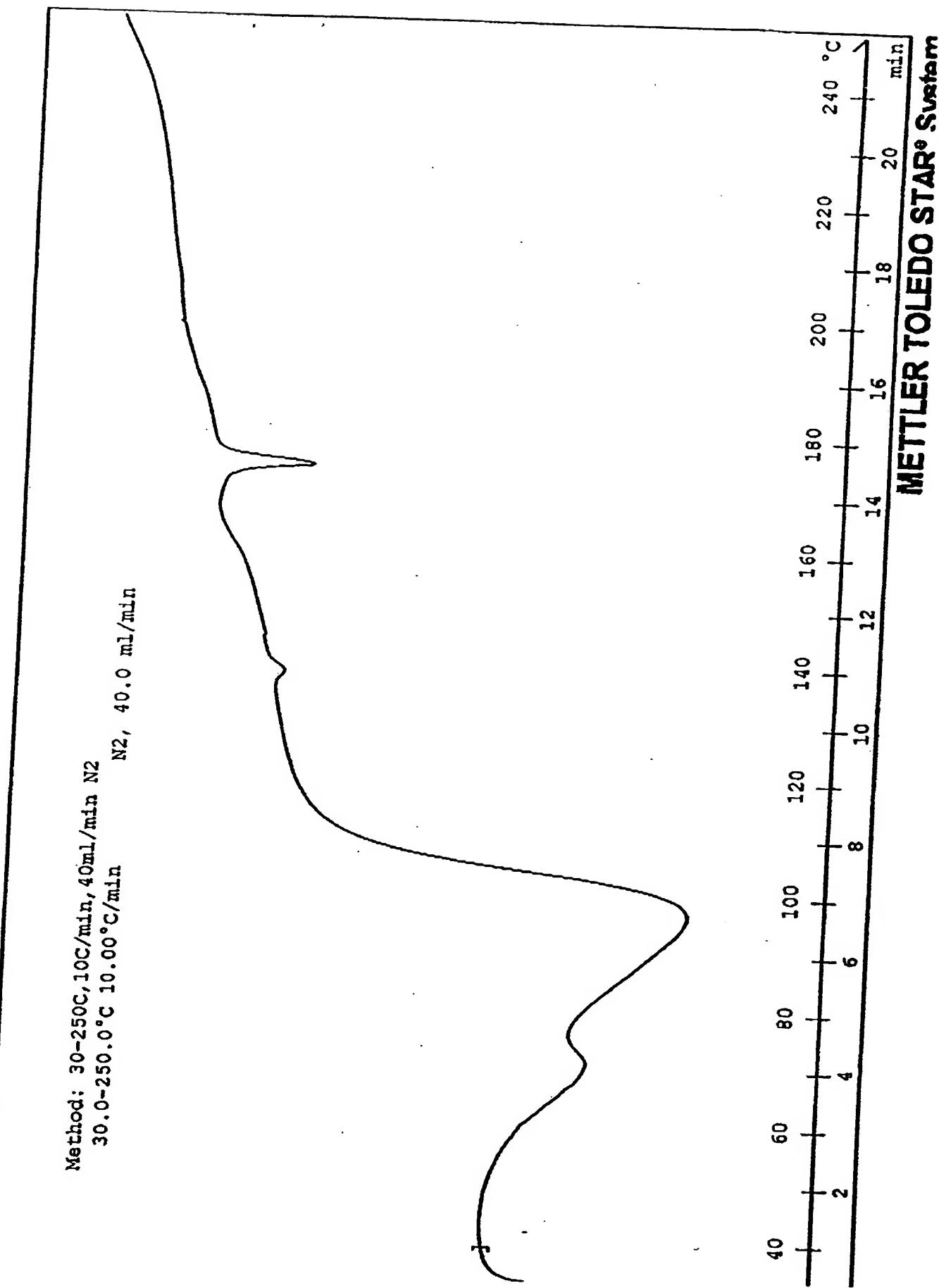


FIGURE 39

Form D

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min
N2, 40.0 ml/min

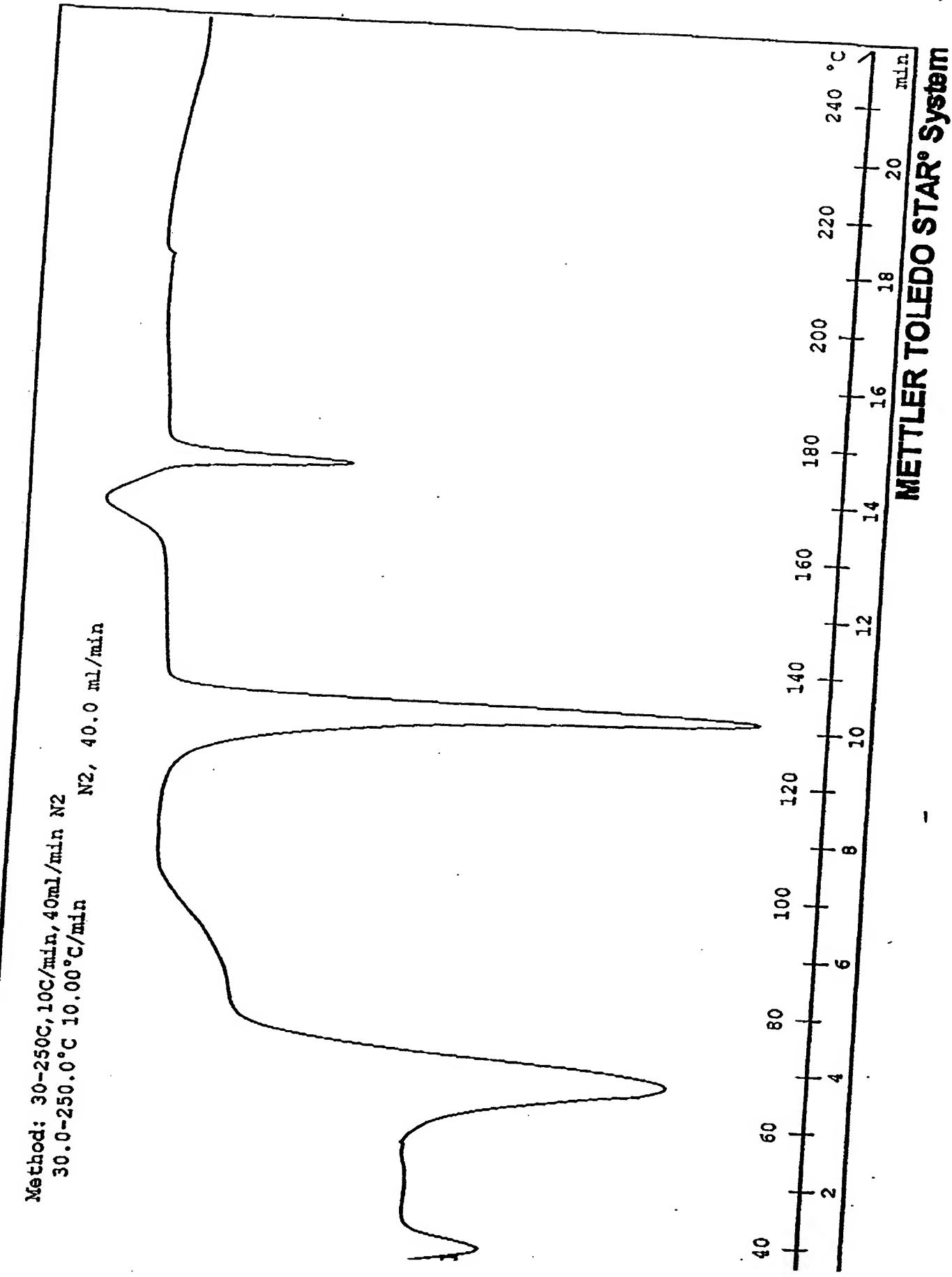
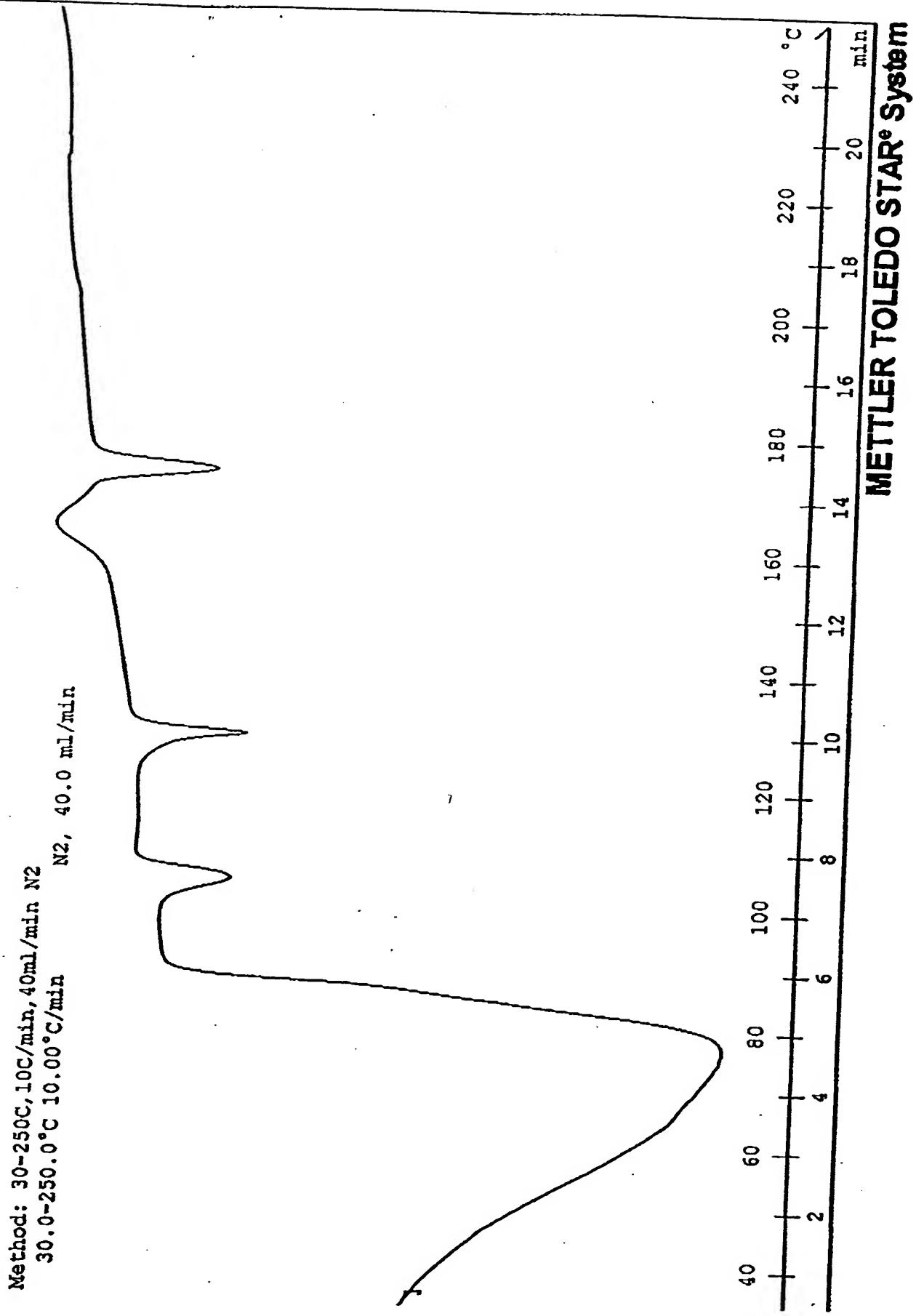


FIGURE 36

Form E

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min



39
FIGURE 4

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0 °C 10.00 °C/min
N2, 40.0 ml/min

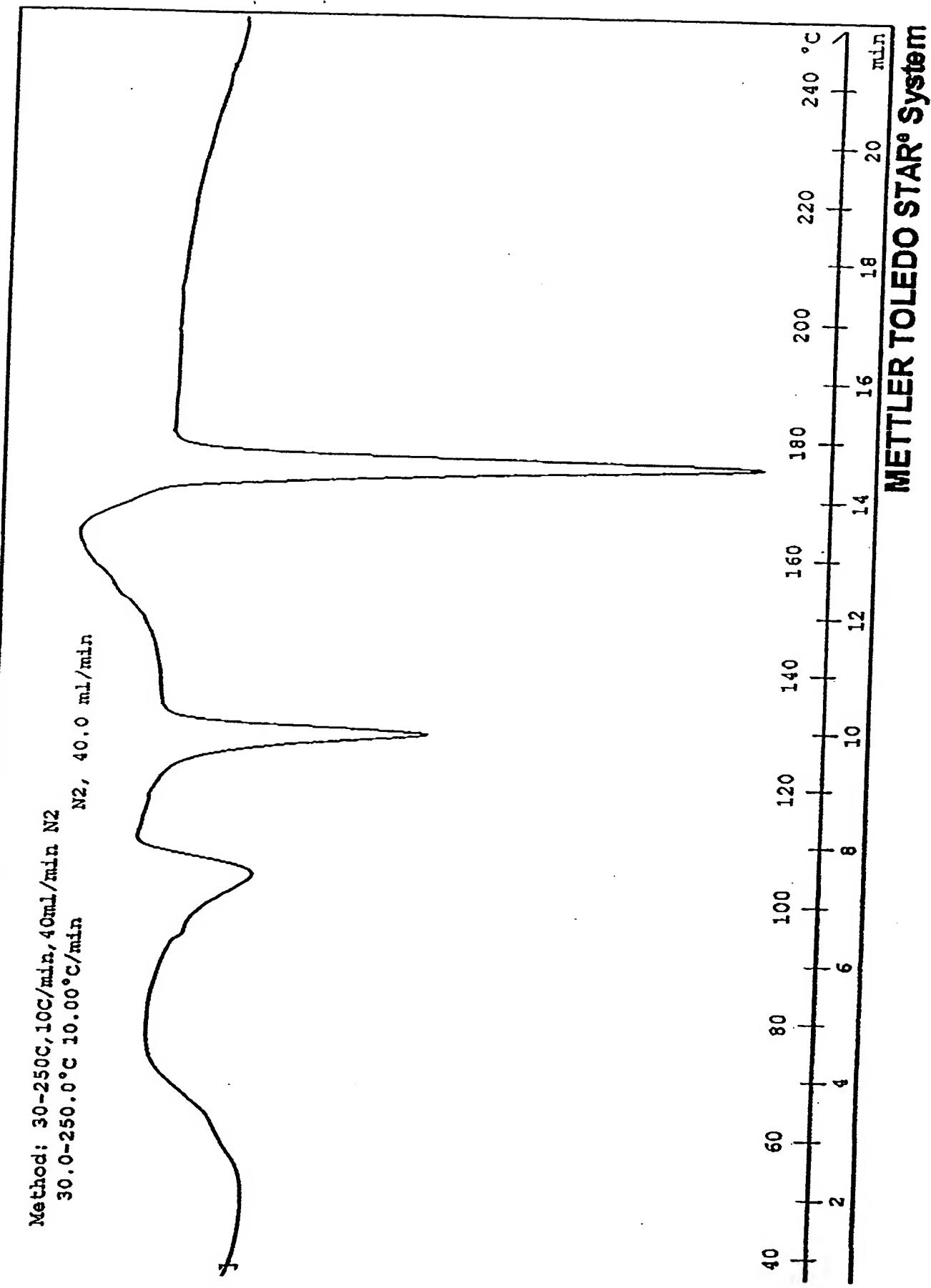


FIGURE 28

XO

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min

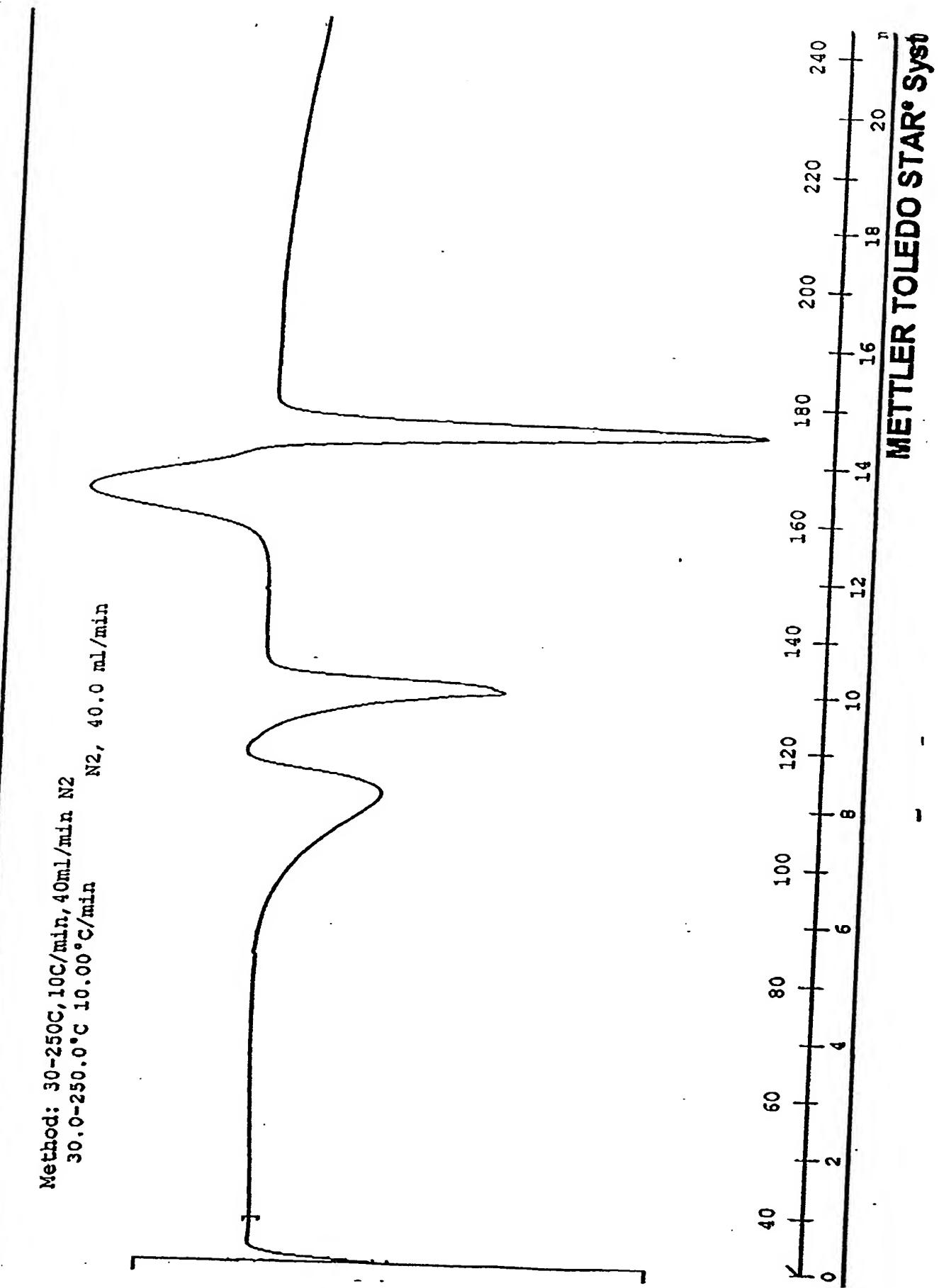


FIGURE 2041

Form I

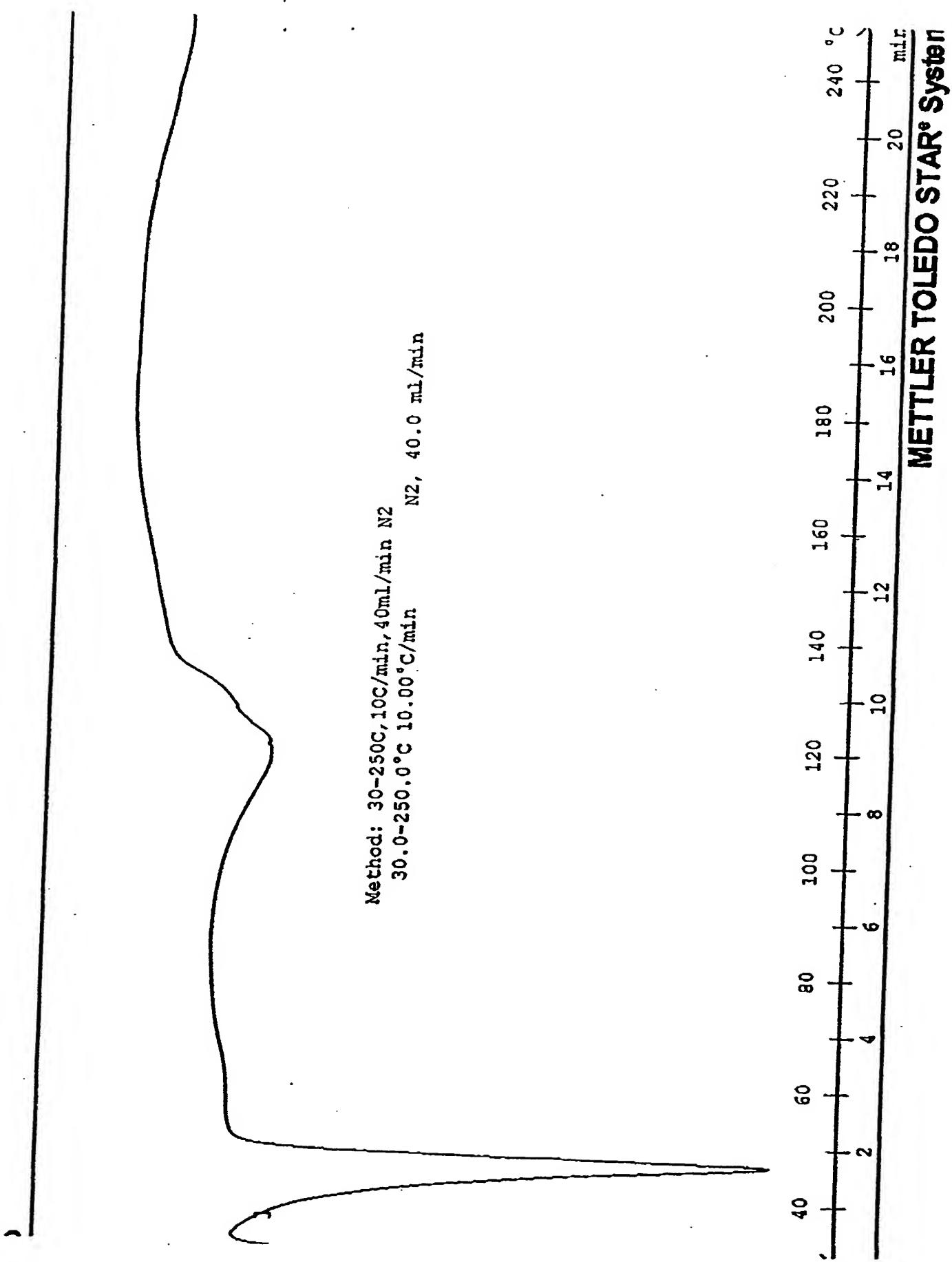


FIGURE 42
Form J

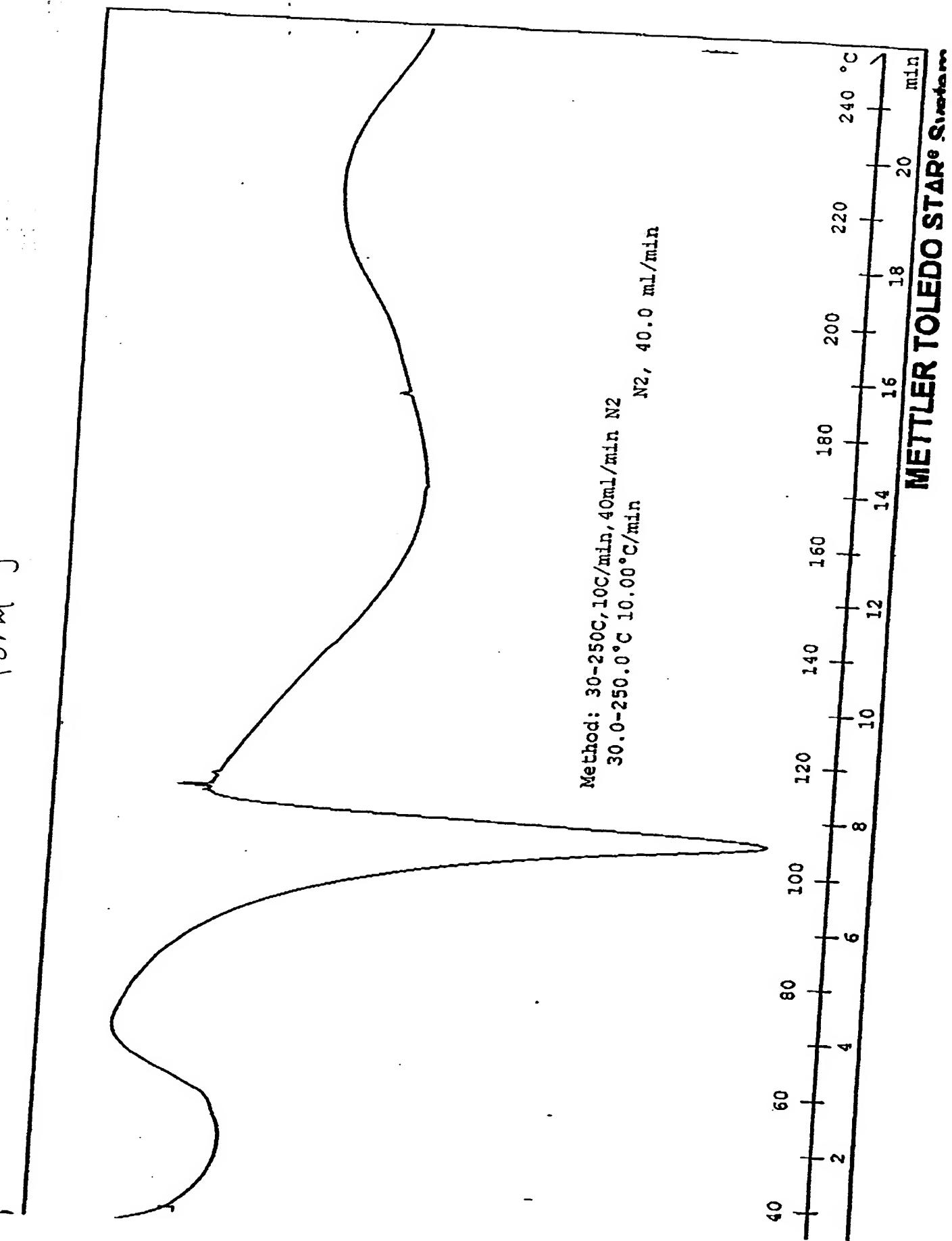


FIGURE 4/3
Form K

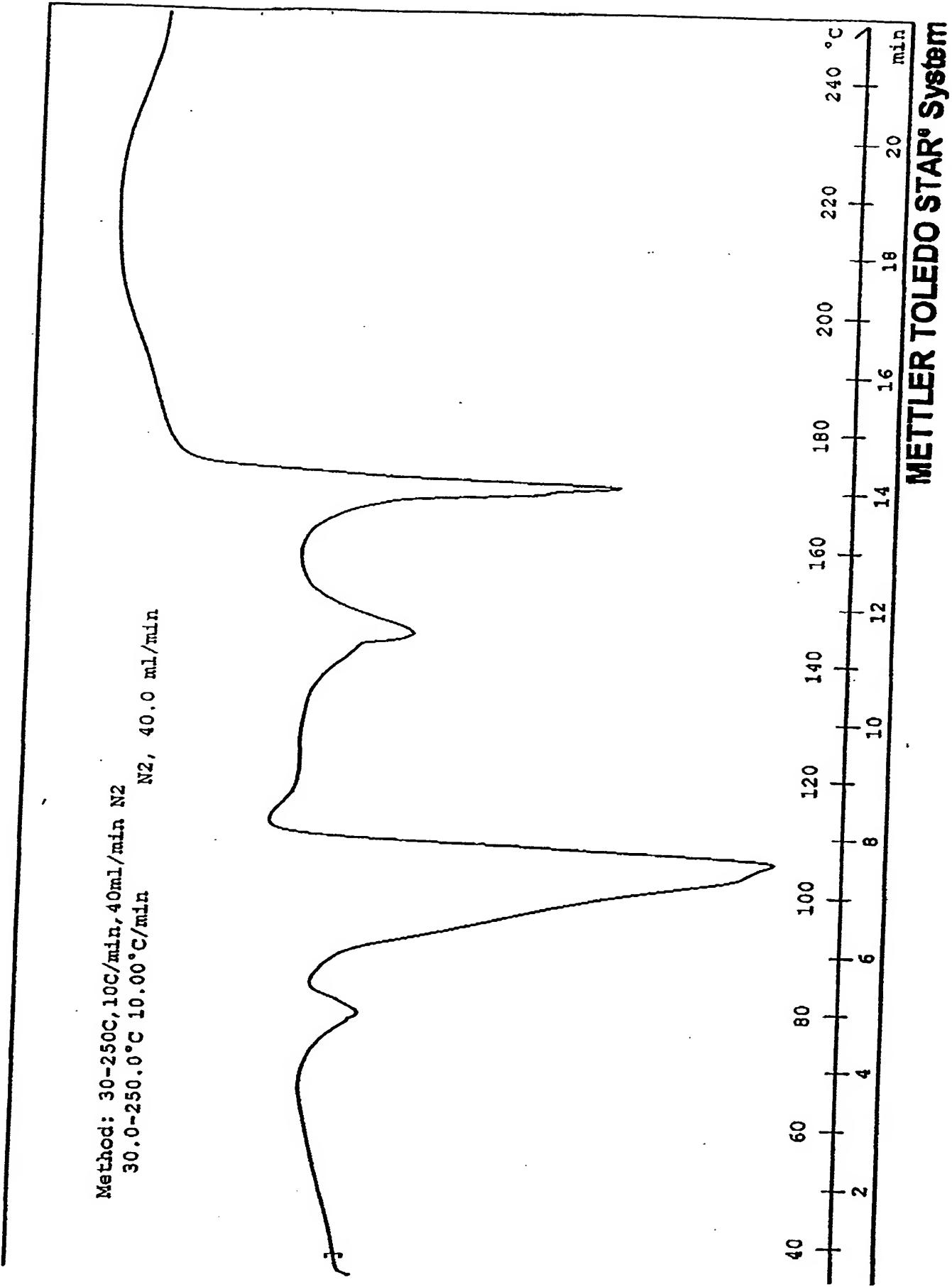


FIGURE 42 414
Form L

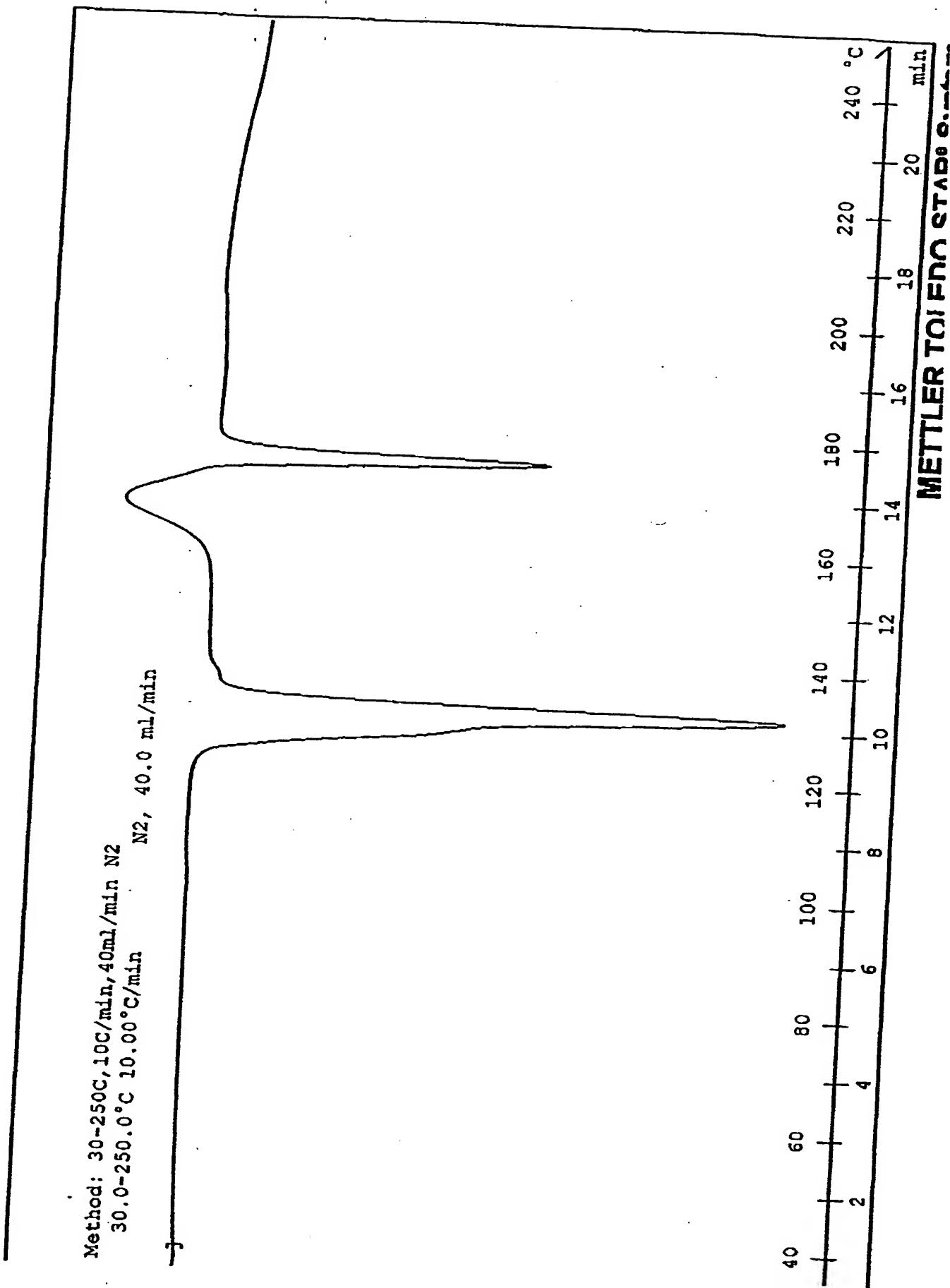


Figure no 45
Form M

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0 °C 10.00 °C/min N2, 40.0 mL/min

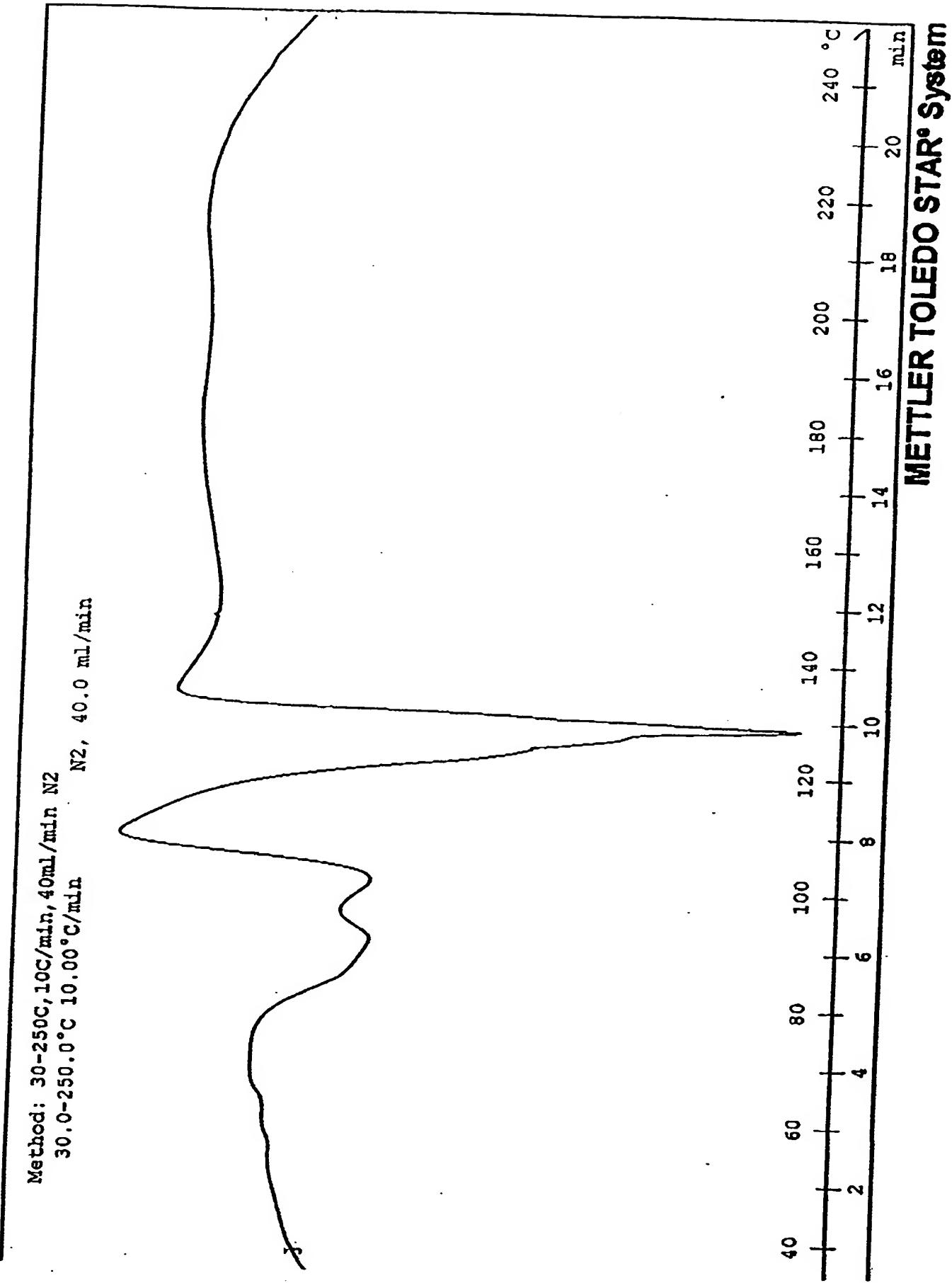


FIGURE 46
Form N

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min

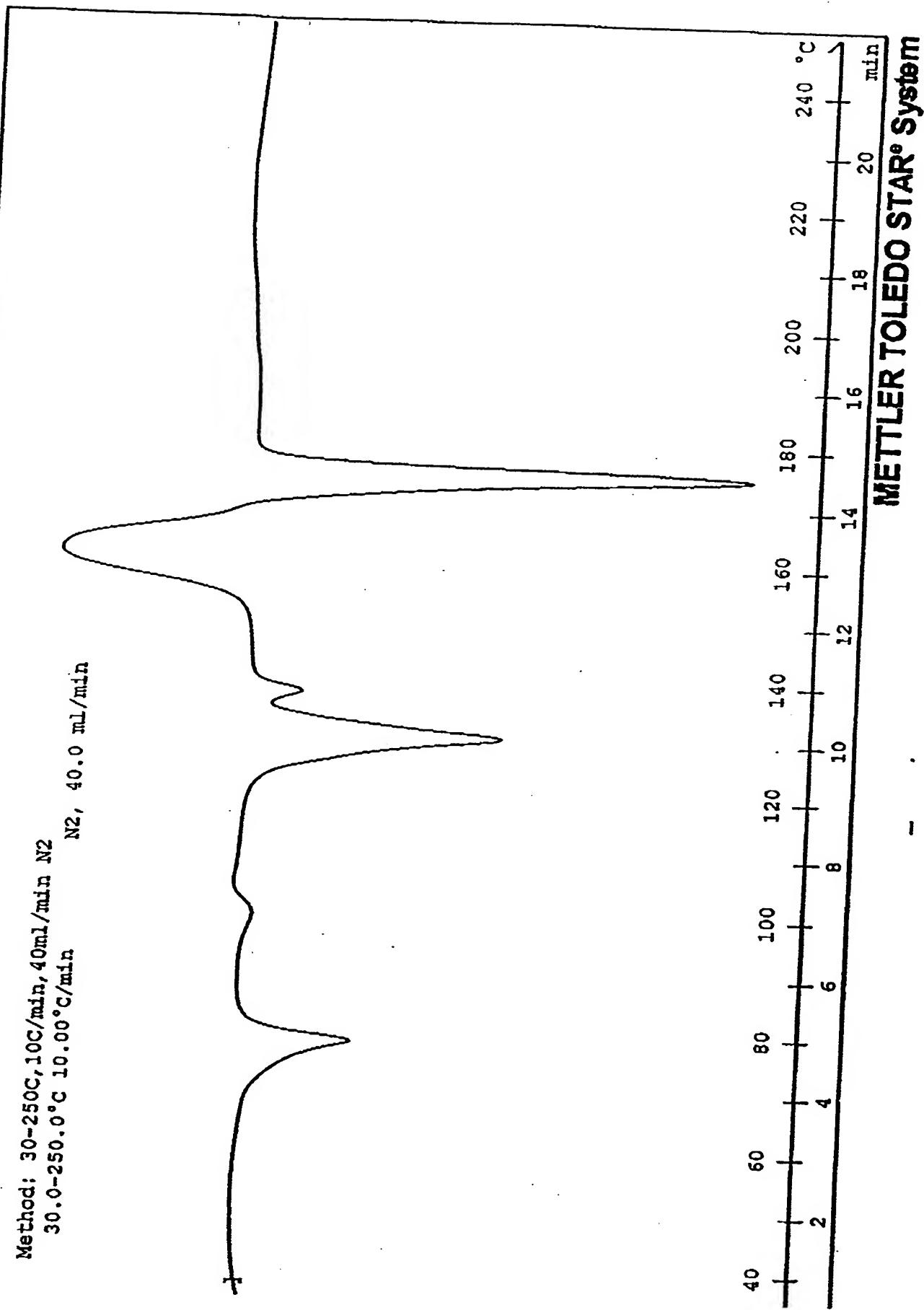


FIGURE #5 4/7

Form 6

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0 °C 10.00°C/min
N2, 40.0 mL/min

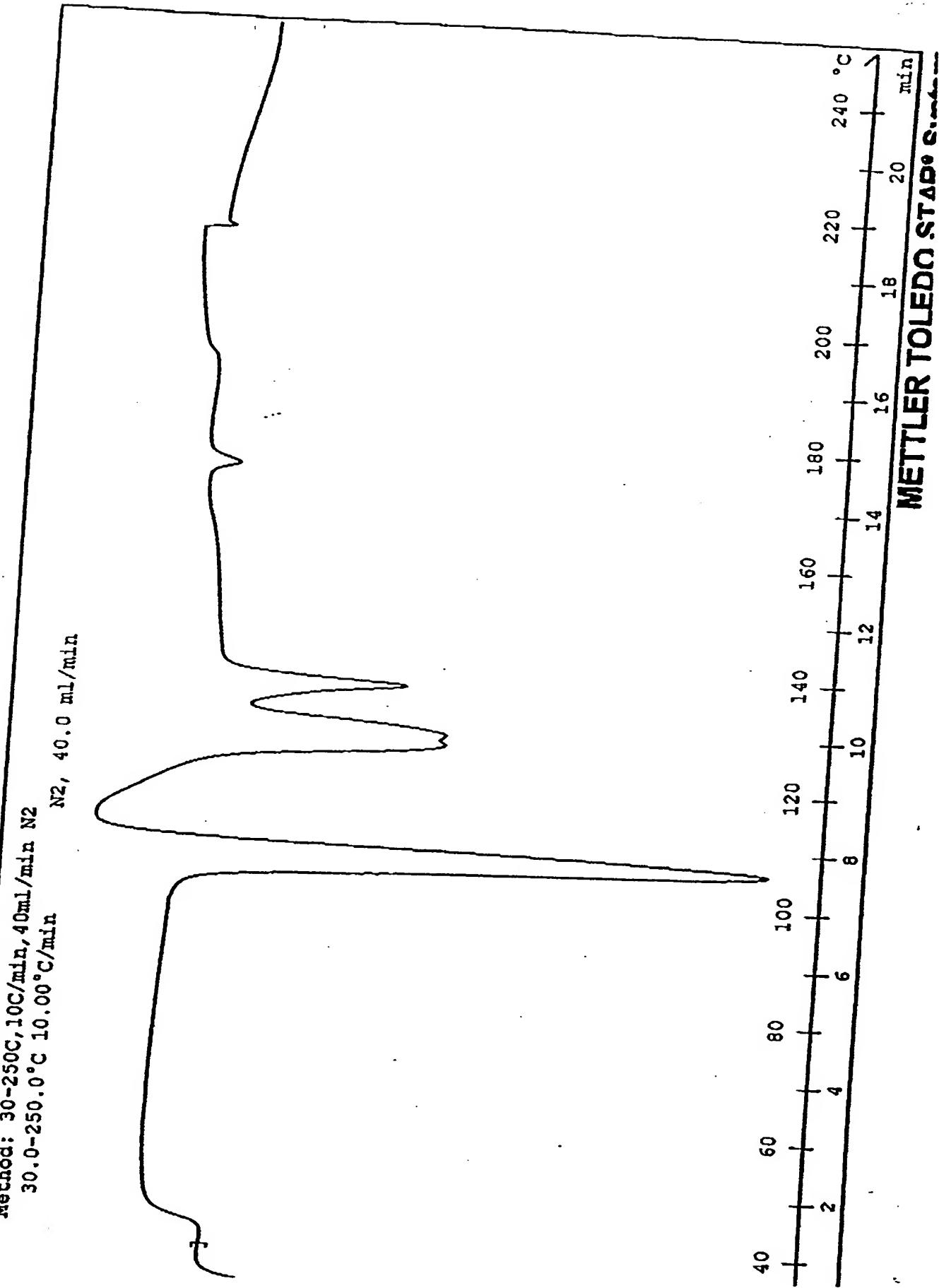
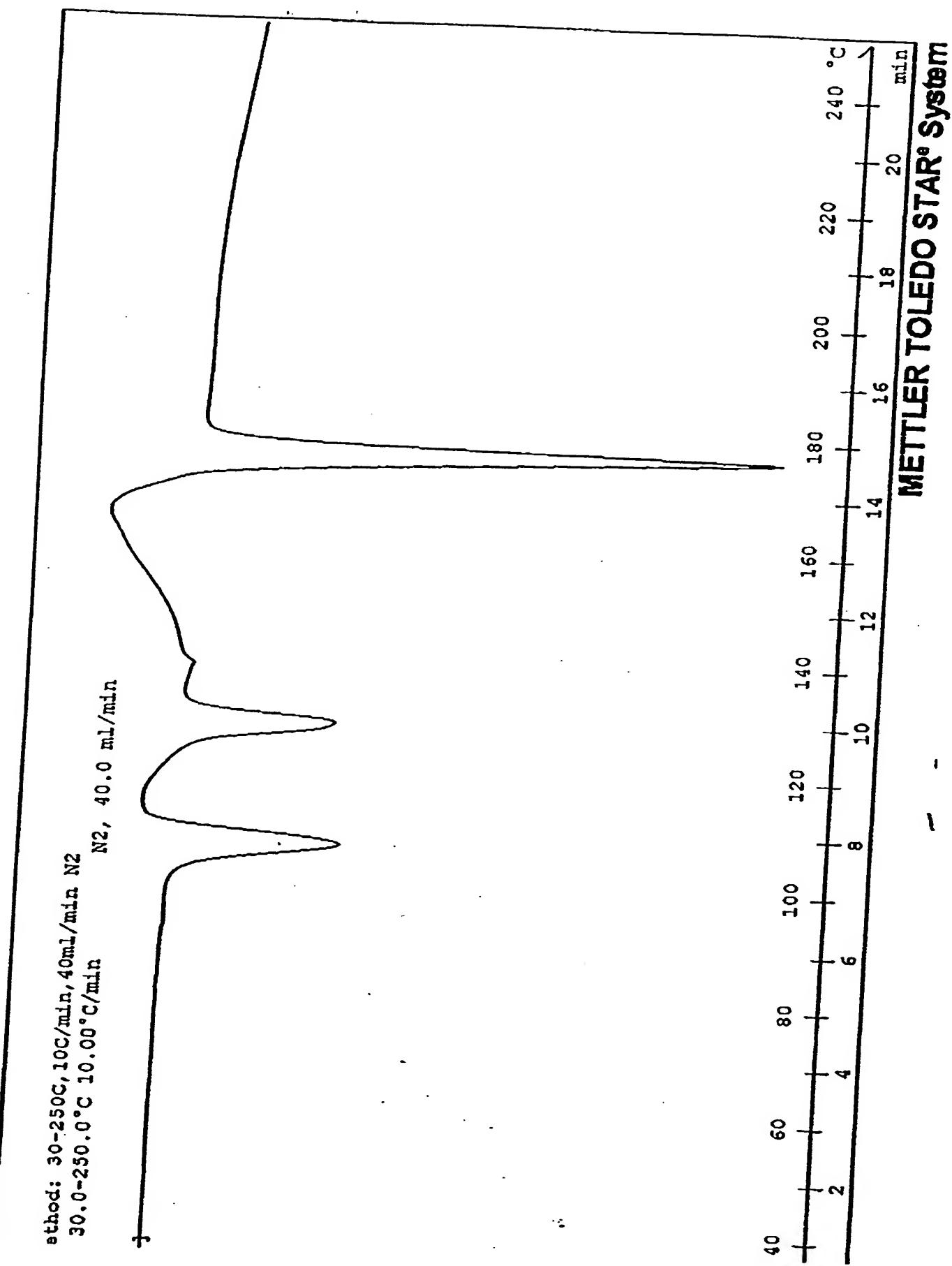


Figure 48
Form F

Method: 30-250°C, 10C/min, 400mL/min N₂
30.0-250.0°C 10.00°C/min
N₂, 40.0 mL/min



METTLER TOLEDO STAR® System

FIGURE 47 40
Form Q

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 mL/min

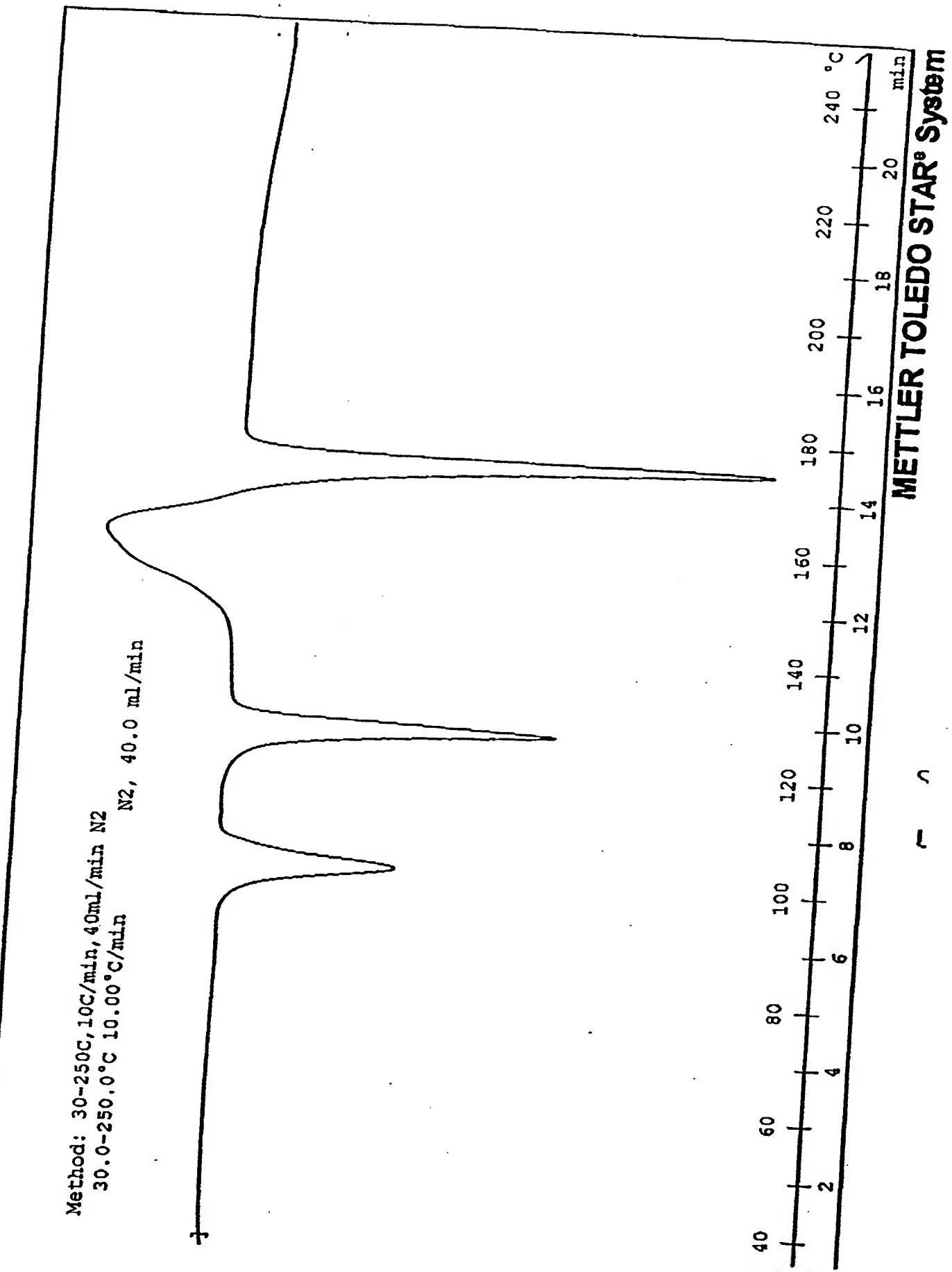


FIGURE 48-50
Form T

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0 °C 10.00°C/min
N2, 40.0 mL/min

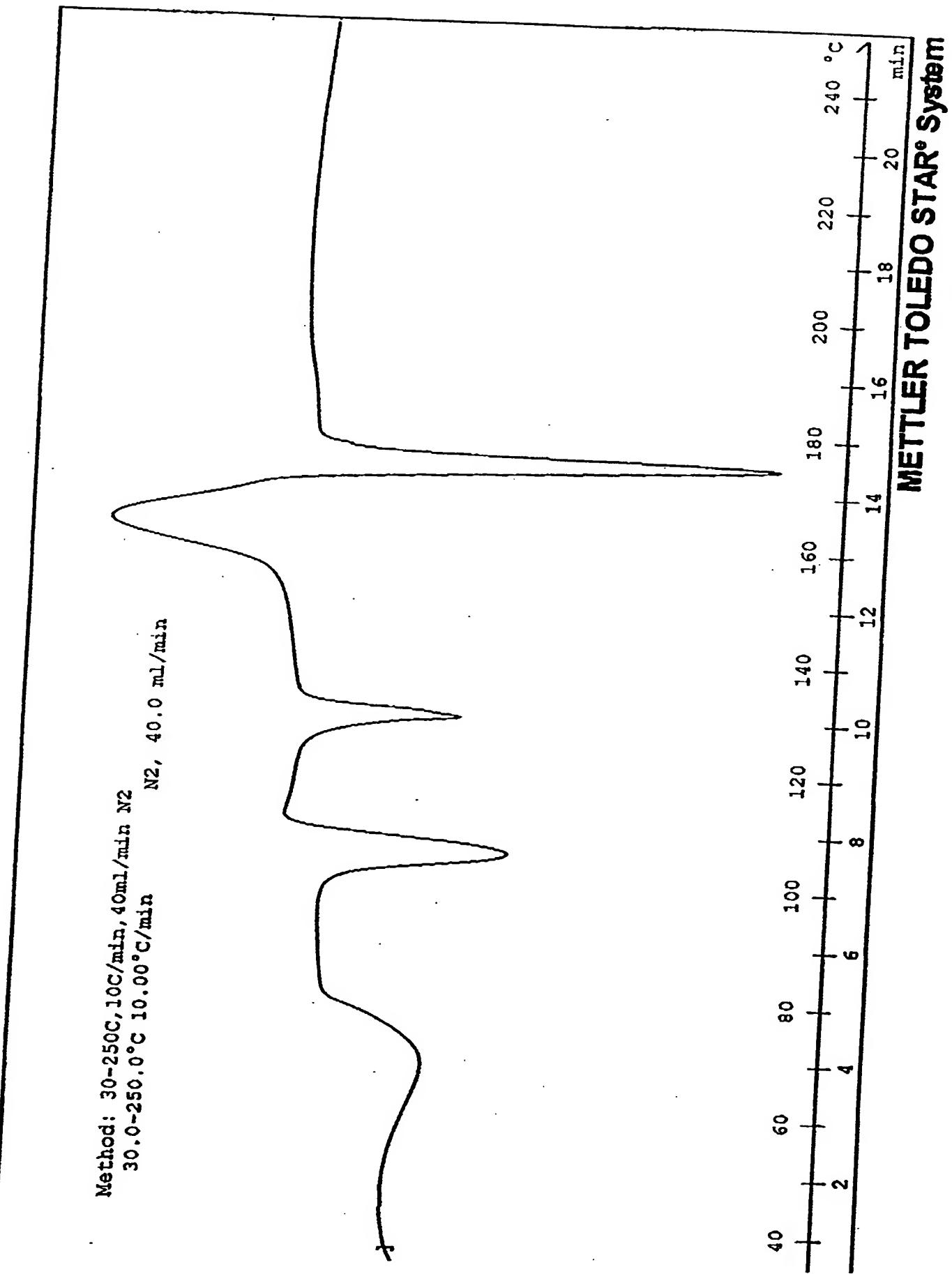
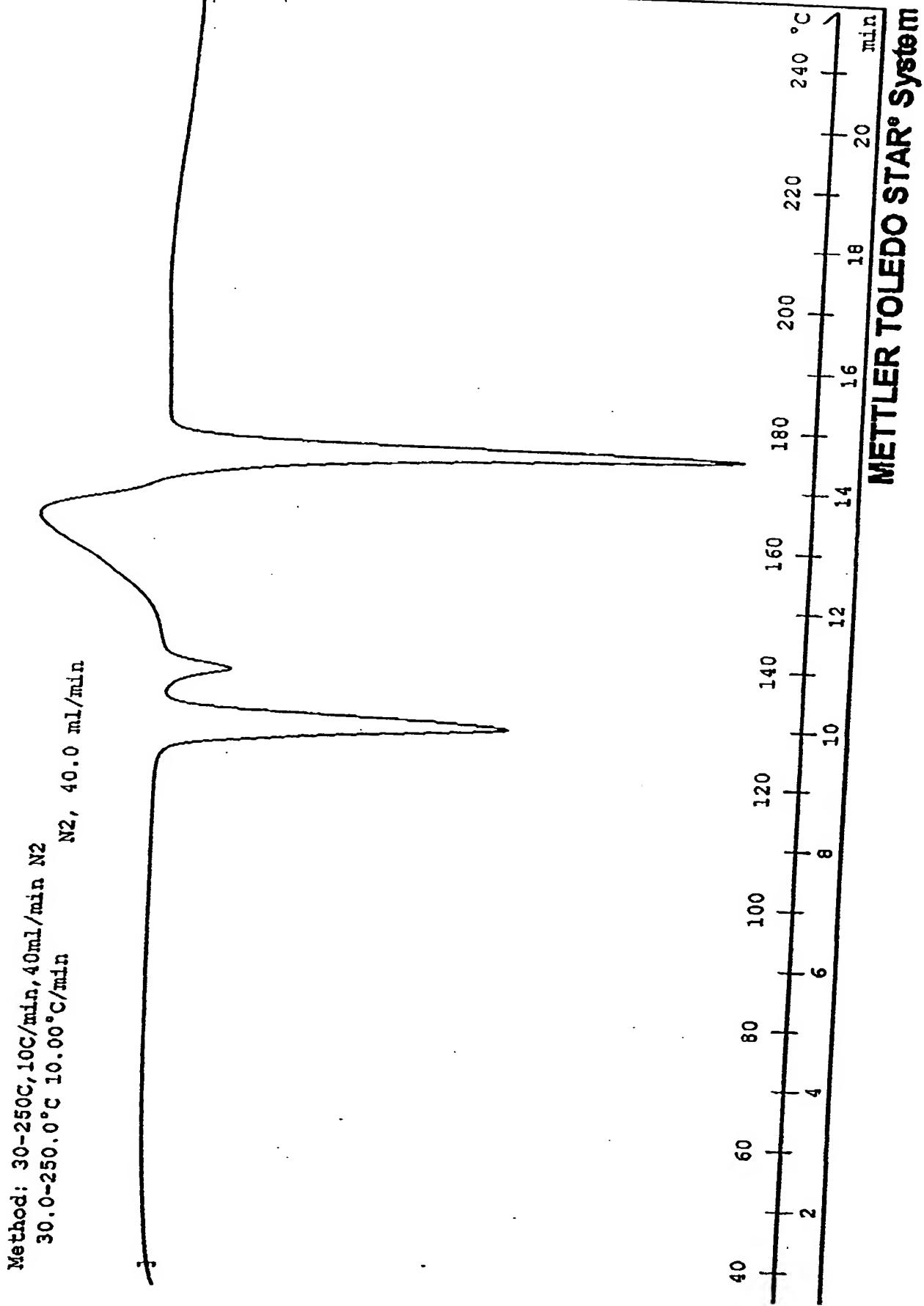


FIGURE 45. 5

Form I_A

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min



METTLER TOLEDO STAR® System

FIGURE 562
Form V

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0°C 10.00°C/min
N2, 40.0 mL/min

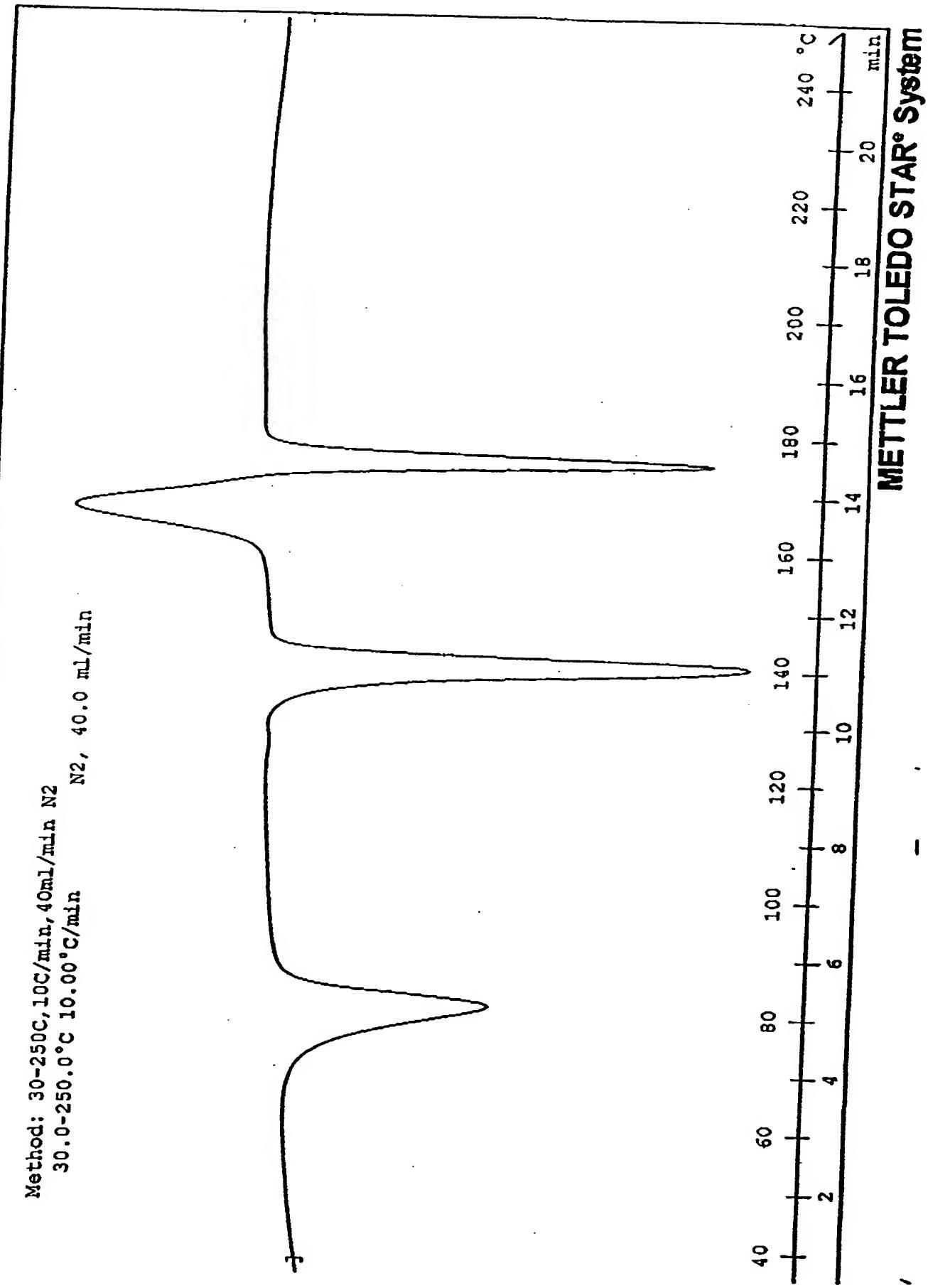


FIGURE 53

Form Y (chloroform solvent)

Method: 30-250°C, 10°C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min

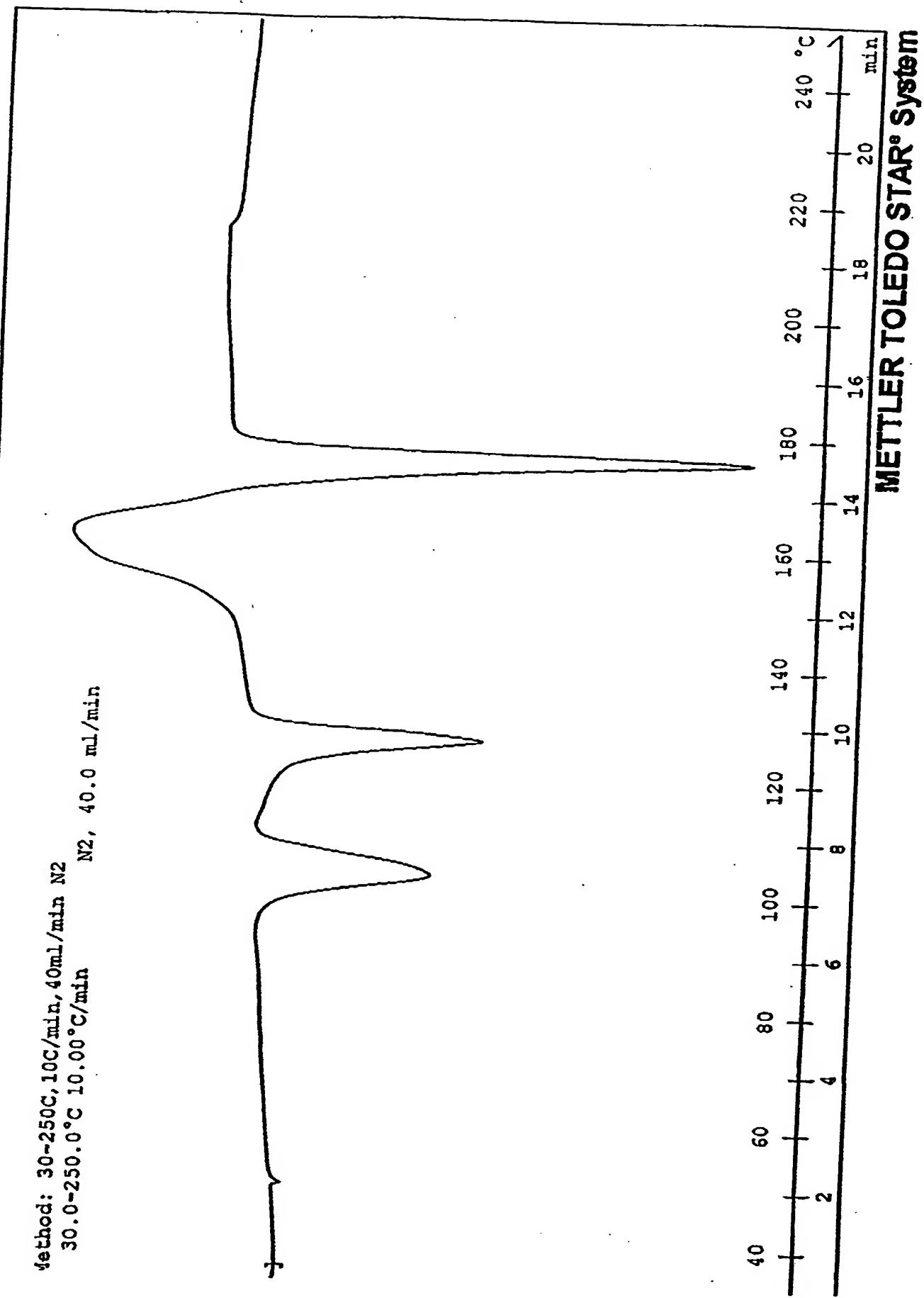
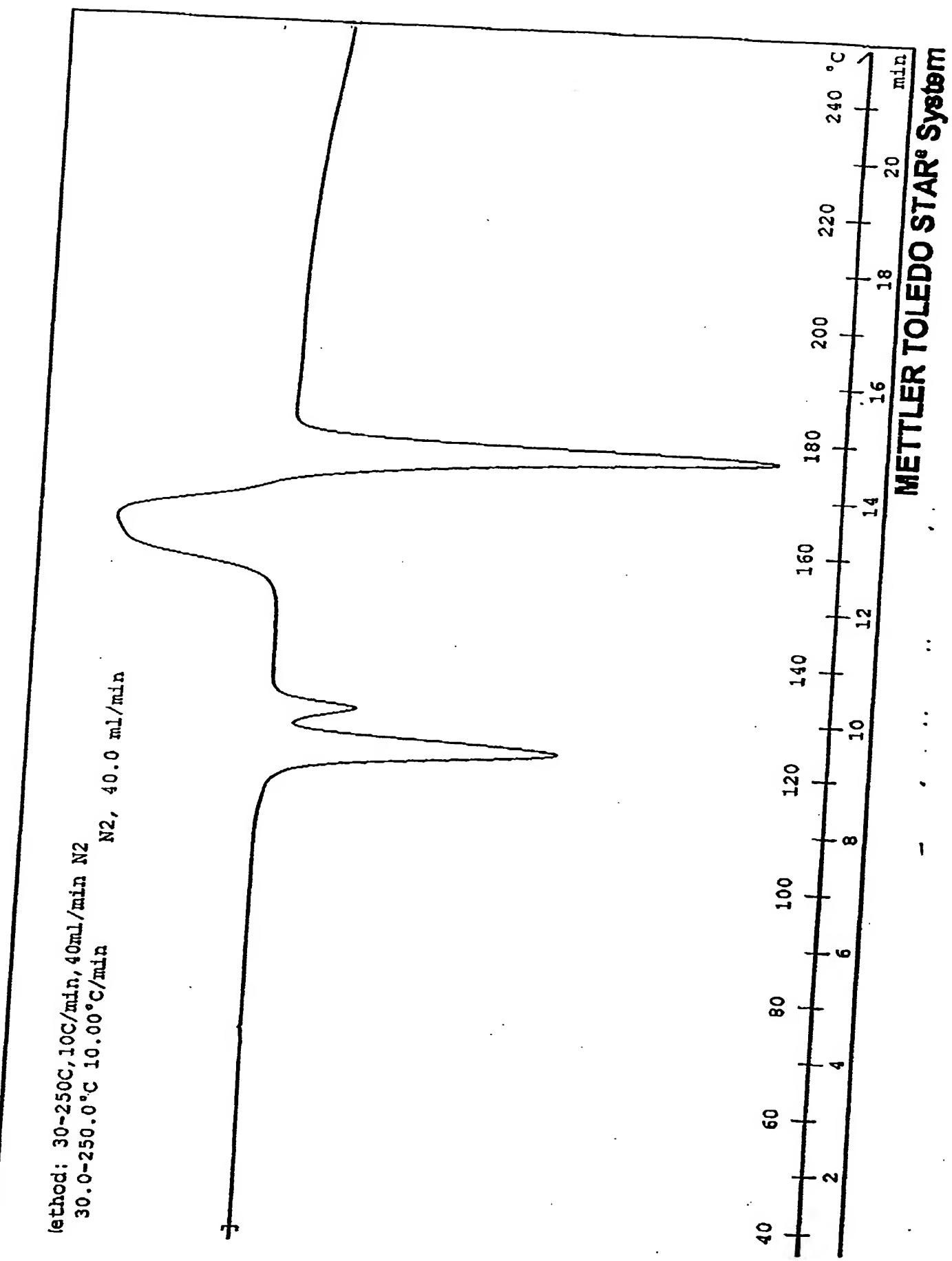


Figure 541
Y (dichloromethane solution)

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0 °C 10.00 °C/min N2, 40.0 mL/min



METTLER TOLEDO STAR® System

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Figure 27 - Natagluinde Form Z

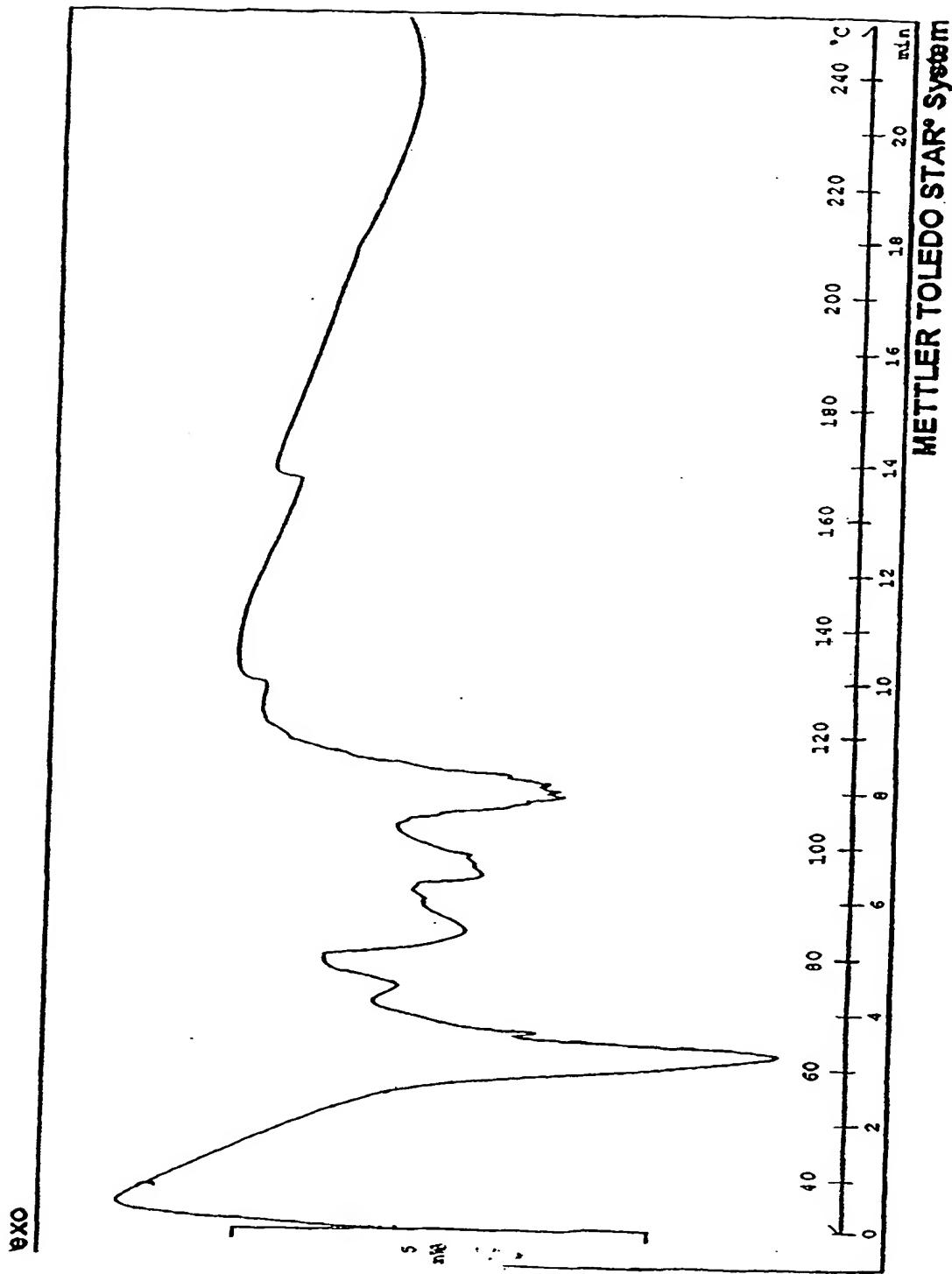


FIGURE 5-56
Form α

IXO

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min

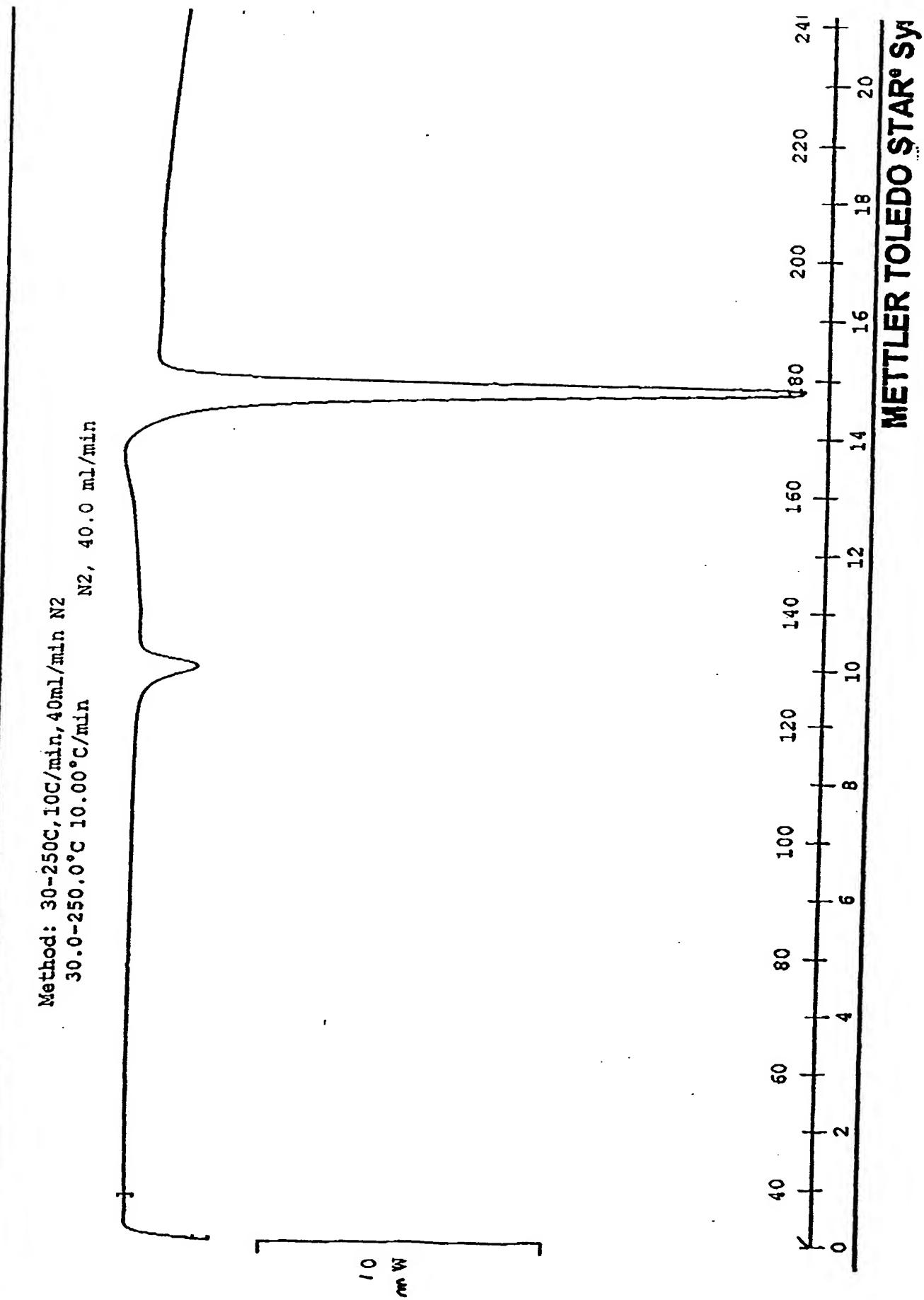
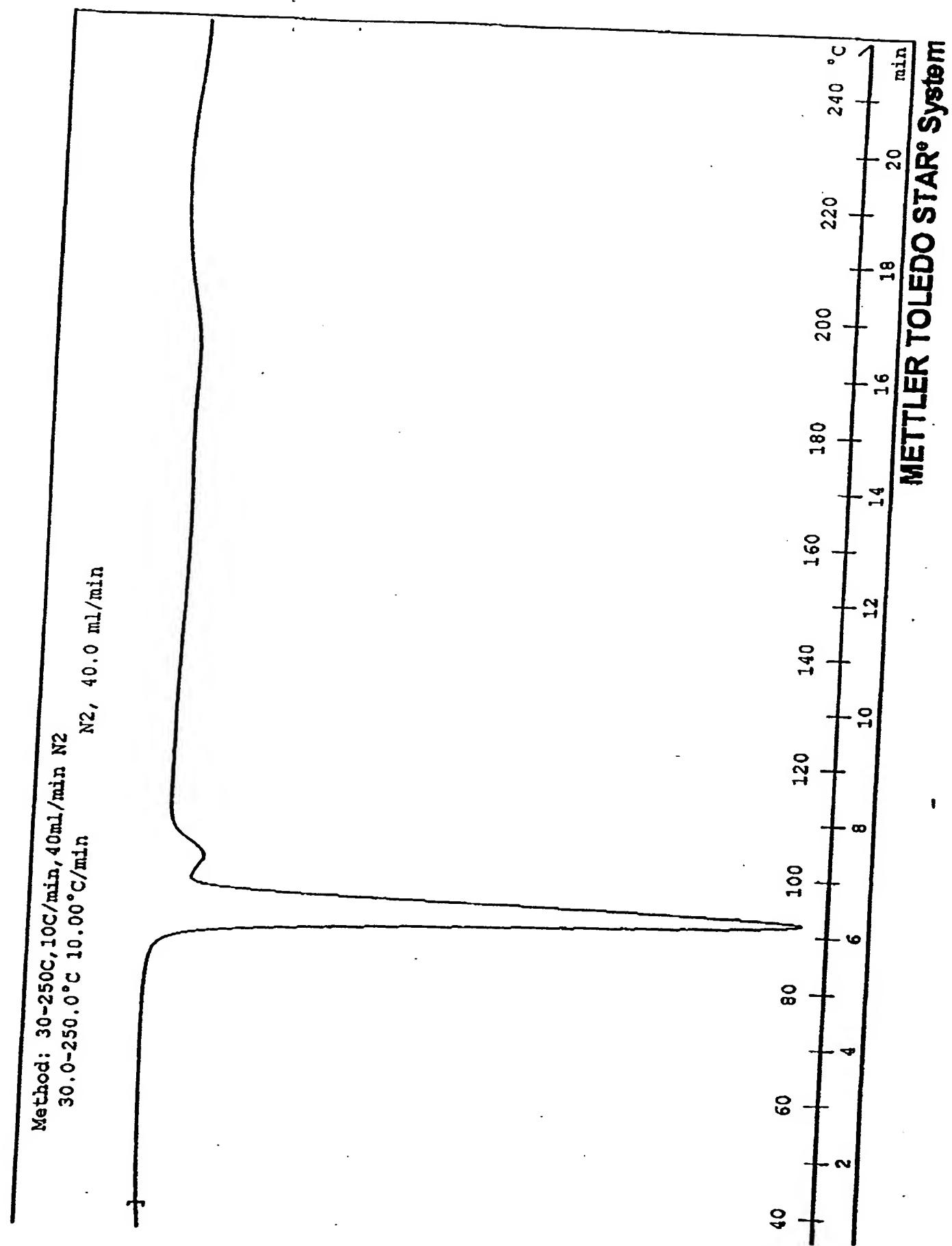


Figure S7
Form Beta

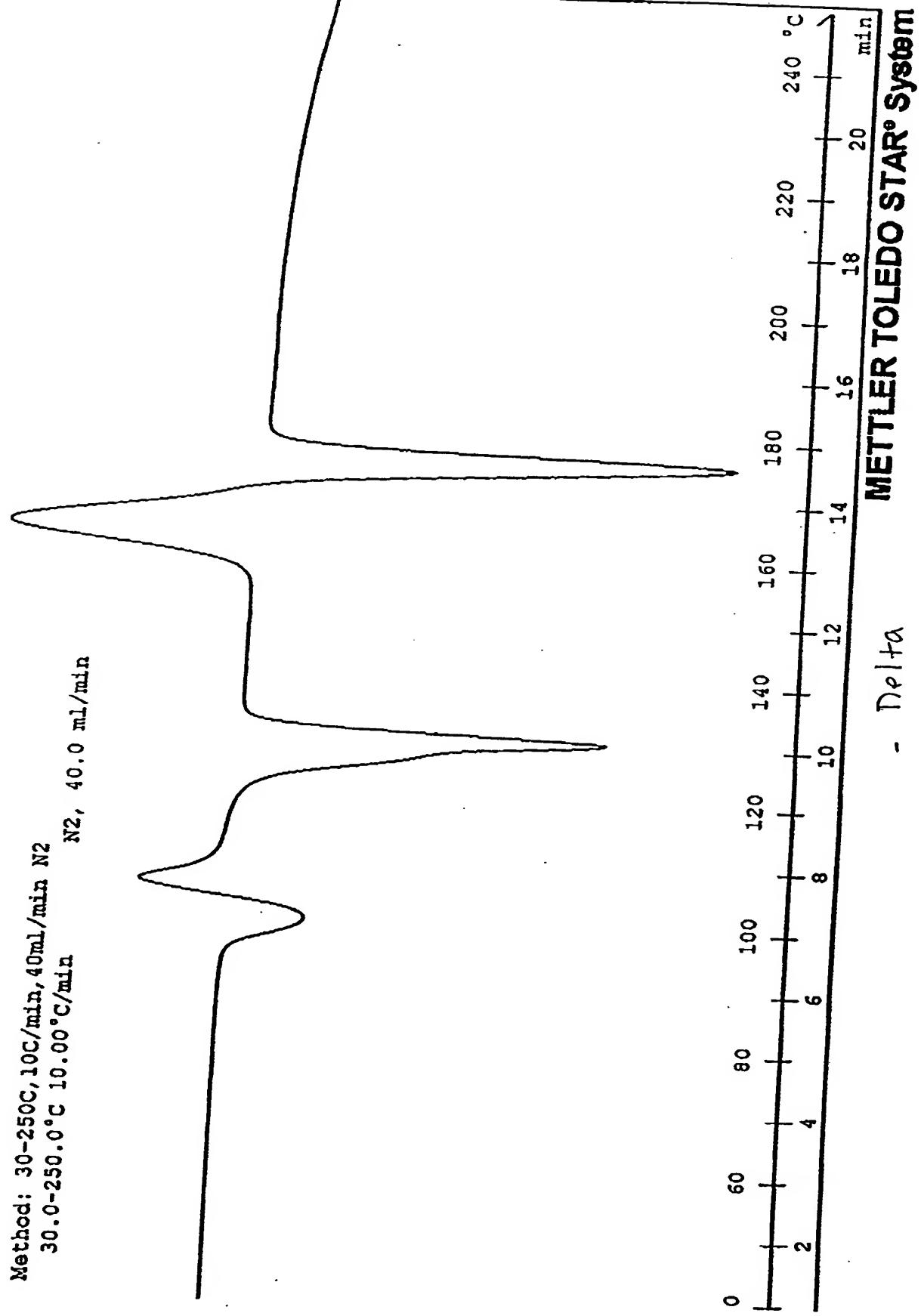
Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0°C 10.00°C/min N2, 40.0 ml/min



Form Delta

FIGURE 55-58

Method: 30-250C, 10C/min, 40mL/min N2
30.0-250.0 °C 10.00 °C/min
N2, 40.0 mL/min



METTLER TOLEDO STAR® System

Form Epsilon FIGURE 56-59

Method: 30-250C, 10C/min, 40ml/min N2
30.0-250.0 °C 10.00 °C/min
N2, 40.0 mL/min

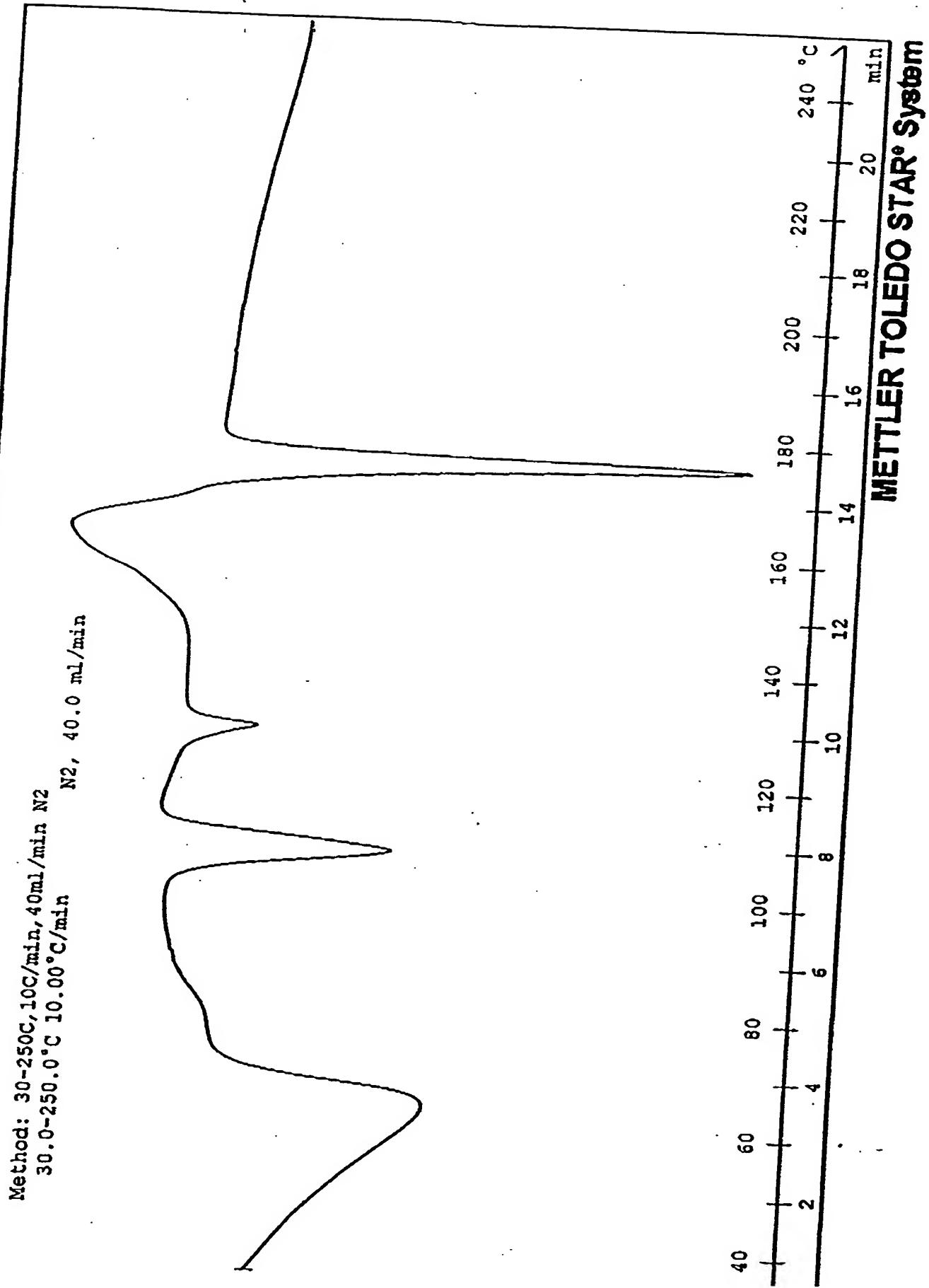


FIGURE 57

Form ~~Gamma~~ Gamma

Method: 30-250°C, 10°C/min, 40mL/min N2
30.0-250.0°C 10.00°C/min
N2, 40.0 mL/min

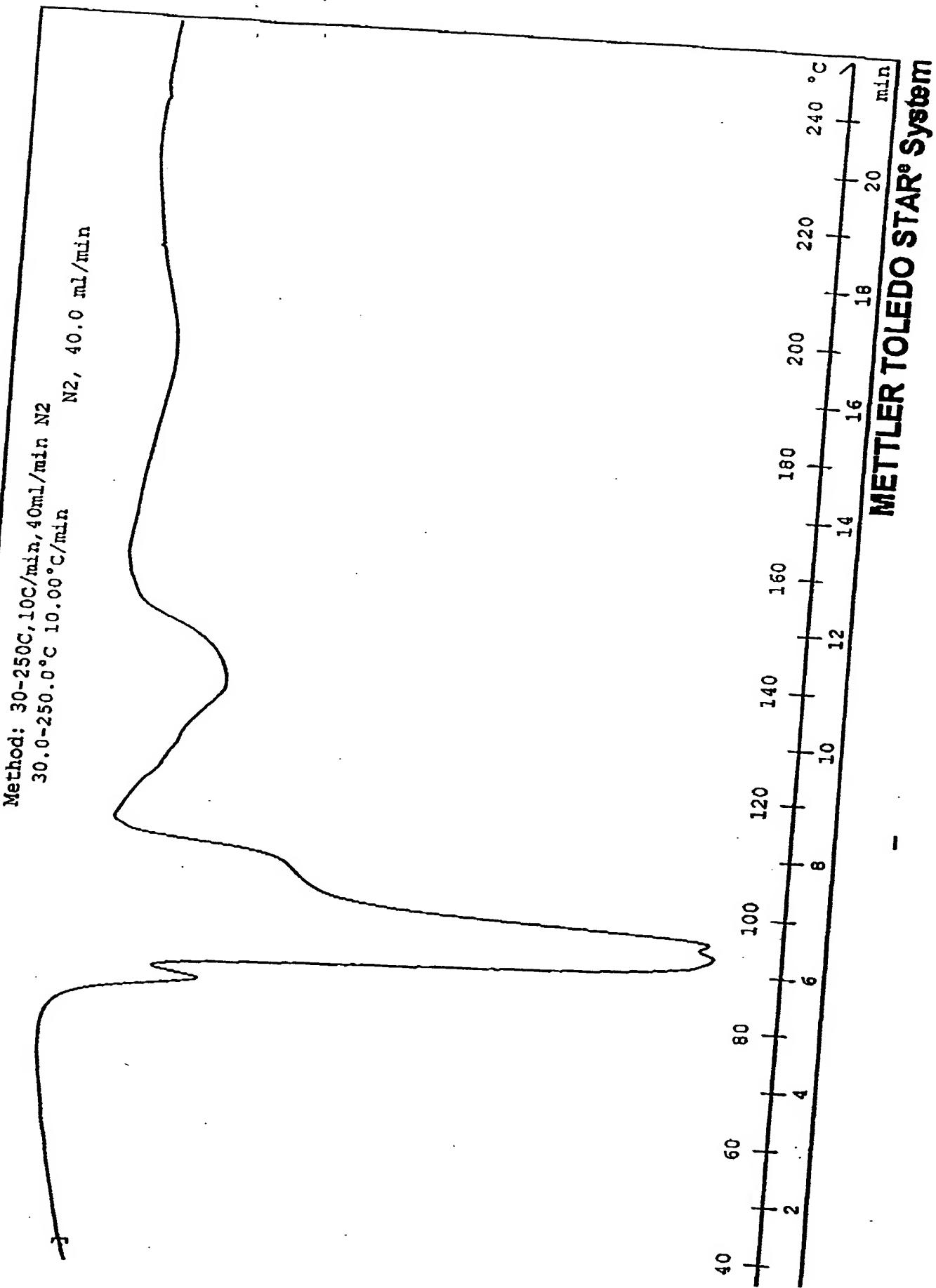


Fig. 6.1 Form Sigma

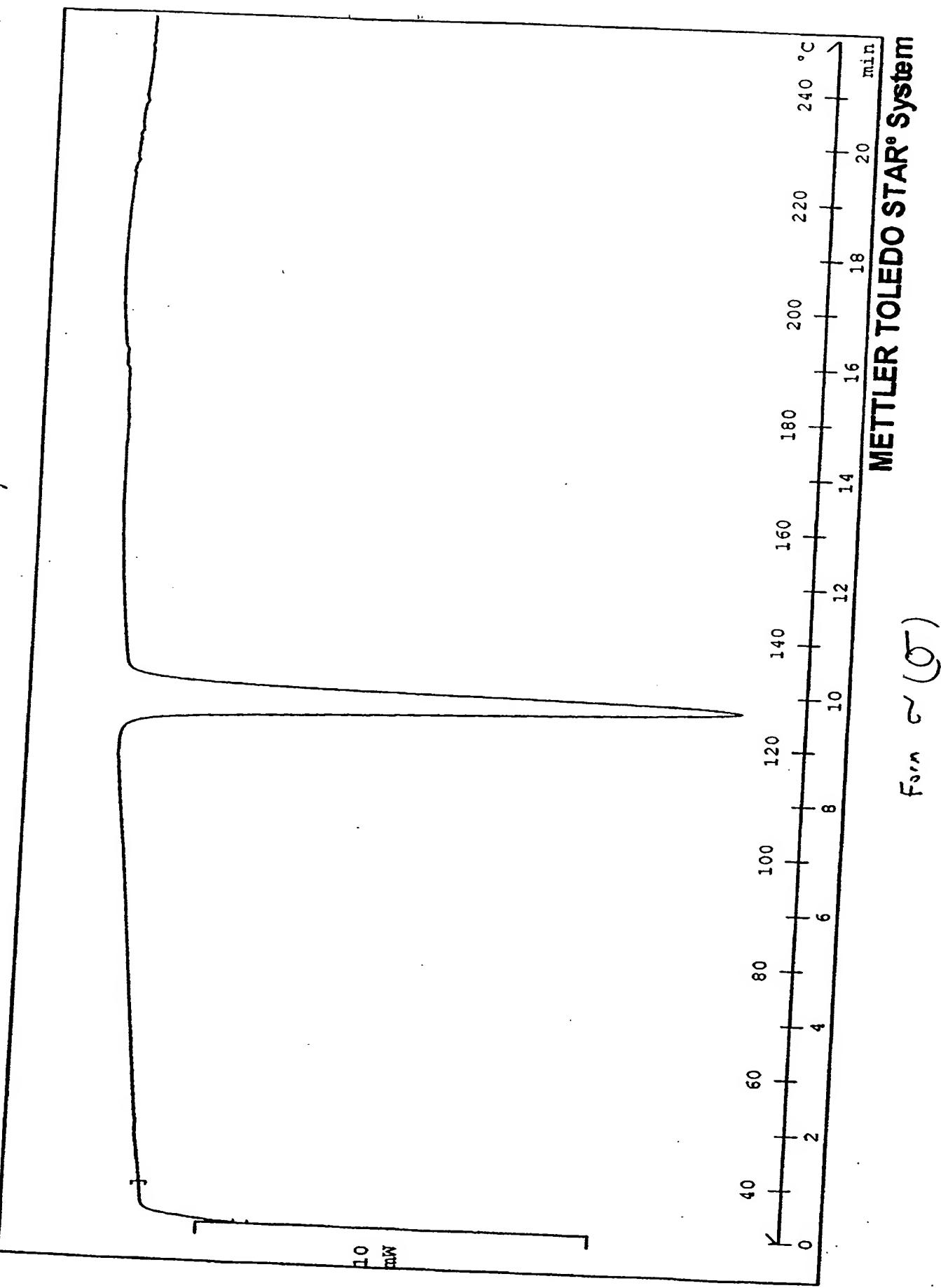


FIGURE 62 Form Theta

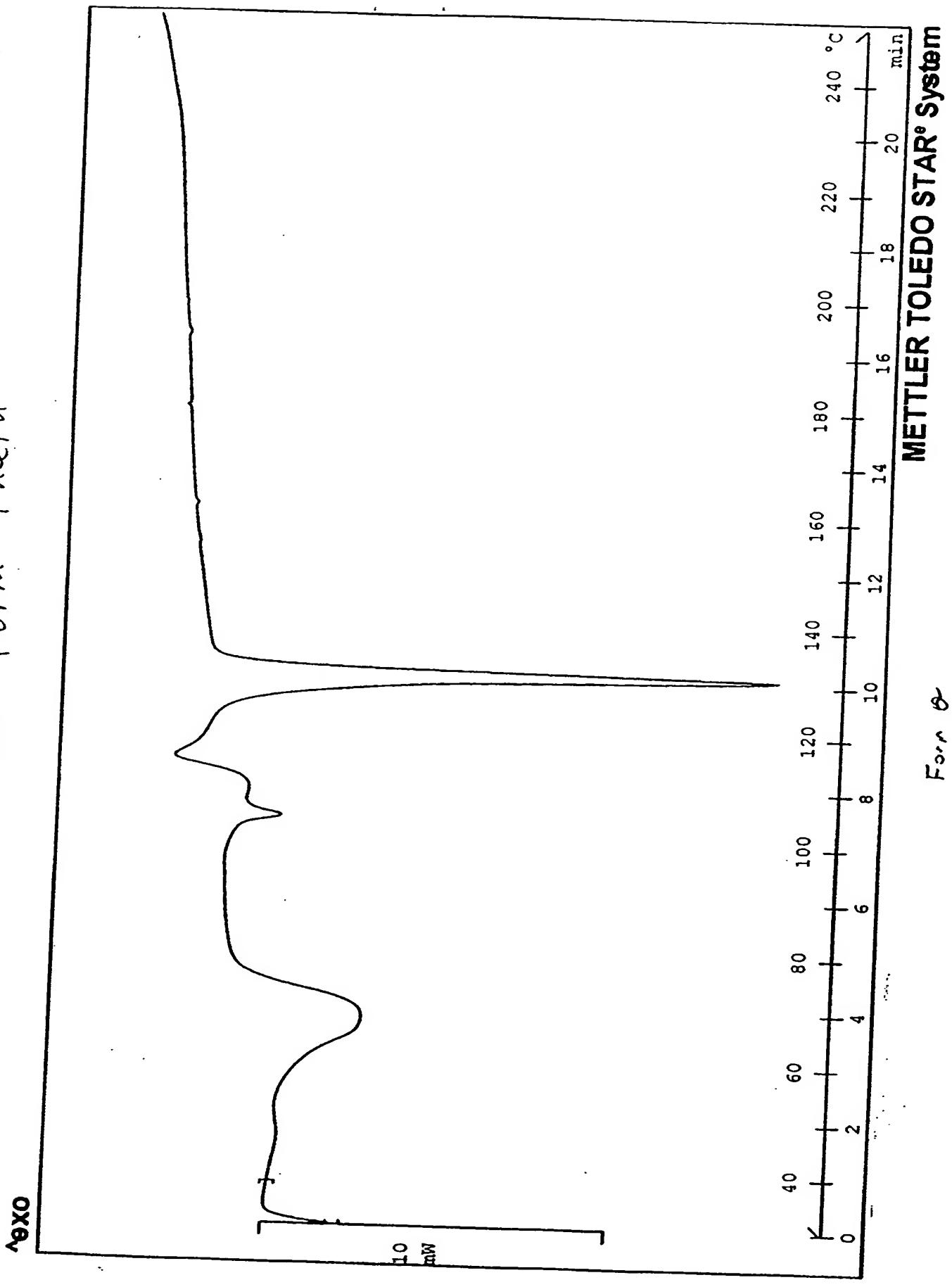


Figure 63

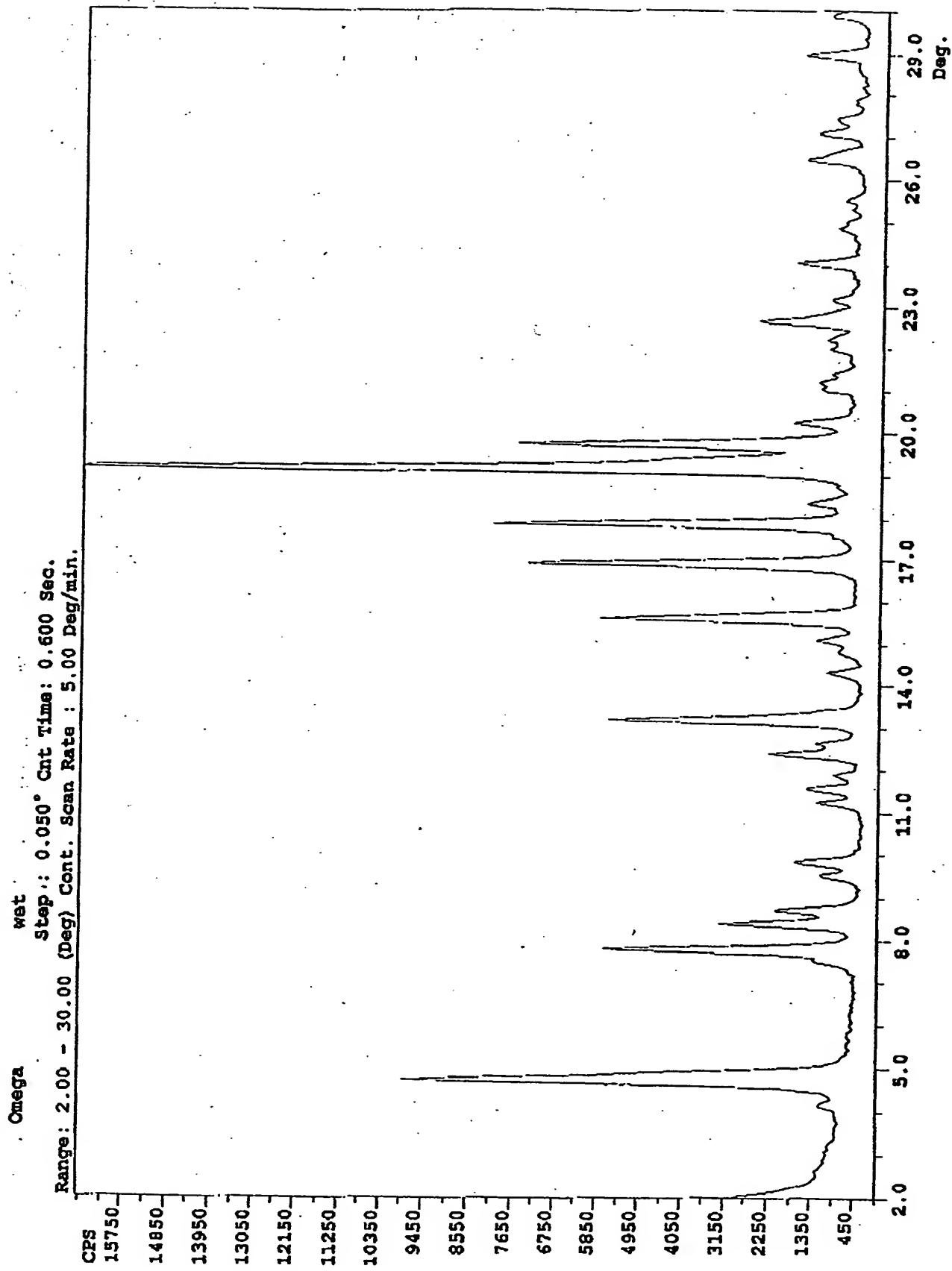


Figure 64

Comparison between the impurity profile of Nateolinide crystallized in IPA-H₂O and Nateolinide crystallized in Methanol-H₂O

Sample No	Solvent	Impurity profile by RRT [% w/w]							
		D-PA (0.23)	(0.25)	(0.46)	(0.80)	Ipcha (0.89)	Dimer (1.38)	Methyl Ester (1.51)	Isopropyl Ester (2.3)
RL-2155/1	Methanol-H ₂ O	<0.01		0.02	<0.01	0.03	0.02	2.91	0.04
RL-2163/4	IPA-H ₂ O	<0.01	0.04		0.02	0.02	0.01		0.03

Note: D-PA means D-Phenyl Alanine

Ipcha means Iso propyl cyclohexyl carboxylic acid

Both are the starting materials of the product

(-)-N-[(trans-4-isopropyl cyclohexane)carbonyl]-D-phenylalanine

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